# Industrial FINISHING

Reg. U. S. Pat. Office

**Devoted to Product Finishing in the Factory**

Vol. XIII, No. 6 | APRIL, 1937 | $2.00 a Year


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Eastern Office: C. A. Larson, Mgr., 254 West 31st Street, New York City; Phone, Penna. 6-9049

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# *Letters from Readers*

## OF INDUSTRIAL FINISHING

**Editor's Note—These letters have been promptly answered and all of the inquiries have been referred to advertisers in the magazine. They are published here to indicate or suggest certain interesting trends of thought and activity in the industry, and to encourage further inquiries, comments and suggestions. The names and addresses of firms or individuals whose letters are published here may be had by writing to this office, or letters sent to them in care of this office will be forwarded at once.**

### Stain Powders

We are extremely anxious to procure a list of stain manufacturers who can supply us with stain in powder form.—D. V. Co. (Industrial and Commercial Wood Products).

### "Duralite"

We are very much interested in receiving information on "Duralite." Are you in position to advise us regarding this—from whom it may be obtained, what it is, etc.?—F. O. Co.

The 1935 Trade-Mark Directory shows six American firms and one Canadian firm listed as using this name—six using it as a name for a line of varnishes, paints and enamels, while a seventh uses it as the name of a liquid wax. Four firms use the name as one word, "Duralite"; two use it hyphenated as "Dura-Lite," while one uses it with a hyphen on each side of the "a," as "Dur-A-Lite." The names and addresses of the firms have been sent to the inquirer.—Ed.

### Waterproof Fabric Finish

In March issue you have an inquiry from M. P. Co. (curtains, shades, blinds) for a waterproof finish for fabrics. We are manufacturers of a very high grade waterproof finish. Our material is now used by a number of large textile manufacturers and is highly recommended by these firms.—Alrose Chemical Co.

### Wood Graining

The description of the subject material appeared in your magazine INDUSTRIAL FINISHING — June, 1936 (page 34), has attracted us very keenly, as we have recently been inquired by the first class automobile maker in Japan for any excellent method and necessary materials for graining the ground of automobiles' dashboards and window moldings.

We find the method mentioned therein to be the most brief one ever come to our attention. Therefore, on this occasion, allow us to take the liberty of asking you to kindly approach the makers of the graining paper in our behalf, so that they quote the best offer direct to us, giving at the same time a few sorts of samples, catalogs and instruction at your earliest convenience.

Should we find the price moderate to the quality upon inspection of samples, we are prepared to issue the initial orders without delay, and if this method is adopted, a certain voluminous business would result in future.

As regards the graining ground and the finishing lacquer, we are ready to apply the ——— products, but should you find any suitable ones, kindly quote them, also giving us full information.

P. S.—The graining we want may

15,310 PLANTS *can't be wrong!*

Right now, 15,310 plants in industry are benefiting through the use of modern Oakite cleaning .. are producing better quality work, lowering costs, increasing efficiency, providing better working conditions to a degree that only DEPENDABLE Oakite cleaning materials and methods make possible.

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Somewhere in your plant there is a cleaning job to be done .. a job where you can cash in on the proven economies of Oakite materials and methods. Ask for booklets that relate to your work. Put your problems up to us. There's no obligation. We can help ... write today.

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SPECIALIZED INDUSTRIAL CLEANING MATERIALS & METHODS

be just same as Buick, Chevrolet and Chrysler. For your reference, we are sending you under separate cover a blueprint of the dashboard in question.—E. O. & Co. . . JAPAN.

## Copper Paint

In the March issue of INDUSTRIAL FINISHING, there is an article by George A. Endom on "Modern Boat Painting." Mr. Endom mentions a new copper bottom paint which I would like very much to have the name of, and also I would like to know where same can be obtained. —M. Products Co. (Toy Blocks, Checkers, Dominoes).

The material you inquire about is "Coppr-Black," manufactured by the Engeom Process Corp., 77 Lexington Ave., New York, N. Y.

## Self-Luminous Enamel

We think we have read in your magazine an article or notice about an American enamel called "Dialux," a kind of self-luminous enamel. Now, however, we are unable to find this article again, therefore we should be thankful to you if you would inform us whether you know the same and are in a position to state the name of the firm manufacturing the product in question.

P. S.—If you should find the address and name of the firm in question, we should be very much obliged if you would also ask this firm to write us and give us all information about the product, as well as prices and instructions for use. — A. D., Stockholm, SWEDEN.

The article you inquire about appeared in April 1935 issue of INDUSTRIAL FINISHING. The name of the concern offering "Dialux" was Grobet File Corp. of America, New York City, but we do not know the present status of this product.—Ed.

## Straw Hat Lacquer

With reference to the request for straw lacquer on page 76 of INDUSTRIAL FINISHING for March, 1937, we manufacture various lacquers which are used in this trade. Some are used in large quantities for regular production and others are specialties to obtain particular effects. We feel that it would be to the advantage of the inquirer if he were to write us direct, telling us what type

# New Colors Becoming *Very* Popular

Patina Walnut—
Georgian Mahogany—
Nu-Dark Maple
Autumn Maple
Belgium Walnut
Olive Walnut
Old English Oak
Antique Bleached Mahogany
New-Sheraton Mahogany

All the new and popular *Bleached and Blonde Effects* on any woods, with the new *Odorless*, single *spray* application DU-BAR BLEACH.

For the *NEWEST* and *BEST* FINISHES, STAINS, FILLERS, LACQUERS, SEALERS, WAXES, POLISHES, etc., write *NOW* to

## V. J. DOLAN & COMPANY, INC.

Manufacturers
*"Unquestionable Quality" Wood Finishing Supplies*
1830-32 N. LARAMIE AVENUE CHICAGO

# *Metalized*
## PRIMER-SURFACER No. 4776-A
*for the foundation of the finish*

*Primes and Surfaces in one operation on*
METAL — WOOD — COMPOSITIONS

Covers—fills—dries fast. Sands in ten minutes. Topcoat immediately after sanding.
Leafing action of metalic ingredients insures covering, hiding and filling properties.
Excellent base for oil enamels, air dry or bake, lacquer enamels or synthetics.
Perfect adhesion and flexibility on all metals.

LACQUERS THINNERS ENAMELS.
UNITED LACQUER M'F'G. CORP.
LINDEN NEW JERSEY

AN ALL RESISTANT
COATING
FOR THE TOUGH JOB

Sani-Cote will resist alkalis and solvents and all animal and vegetable acids. It will withstand glacial acetic acid. It is truly a super coating. It should not be confused with ordinary sanitary lacquers which we also make. Sani-Cote is non-toxic, tasteless and odorless . . . will take processing and all in all is a product which will show up well on "the hard job". . . May we send you details?

Sani-cote

THE WATSON-STANDARD CO.

Manufacturers of Specialized Industrial Finishes and Lithograph Coatings, for Spray, Dip or Roller Application to Metal.

Factory and General Offices
PITTSBURGH, PA.

Warehouses: Boston, Buffalo, Detroit

of straw he wishes to coat and waterproof, and whether he wishes to get a gloss finish or just a stiffening action.

If you would advise this company of our name and address, we would be very glad to go into it further with them.—Howe & French, Inc.

## Furniture Finishing

We are in need of your old publications of INDUSTRIAL FINISHING in which articles and information on wood and steel furniture finishing have been published. Please let us know if you can supply these to us, and if so at what cost.—K. B. Ltd. (Dist. Satara) INDIA.

A few copies are available at 25 cents each to foreign countries.—Ed.

## Silver Bronze

Will you kindly give us the names of one or more firms from whom we can buy the aluminum powder of the type that you mentioned in your article "Silver Bronze" which appeared on page 16, in the March number of your magazine?—T. Q. F. Co. (Poultry Equipment).

## Dipping Machines

On page 6 of your March issue of INDUSTRIAL FINISHING, we see an inquiry from the S. P. Co. who asked for the address of Northern Machine Mfg. Co., in order to obtain further information on their dipping machines. We would also like to bring our equipment to their attention in the event that it may suit their requirements.—Apex Products Corp.

## Burning-in Knives

Could you advise us where we could obtain burning-in knives?—S. A. Furn. Co.

## Dark Spots in Walnut

As a reader of INDUSTRIAL FINISHING magazine, we are taking the liberty of sending you herewith a few pieces of walnut veneer showing dark spots which, as yet, we have been unable to find a bleach or chemical of any kind that will remove these spots and restore them

to the same color as the remainder of the veneer. If you have any information you can give us as to how to take out these spots, we will very much appreciate your doing so . . . —T. G. Co. (High Grade Fixtures).

## Stencil Screen Cutters

We have read with interest the article by H. L. Hiett in the February number (page 18) on "Stencil Screen Cutters," etc. We should very much appreciate your asking the manufacturers of these to send us full information, including prices and discounts for re-sale, as we do a large business in screen pastes and all accessories.—S. & I. F. Ltd., Herts, ENGLAND.

## Cleaning & Reclaiming Solvent

We have a considerable quantity of dirty thinners which we would like to be able to reclaim. Would you kindly place us in touch with the makers of the above equipment, as mentioned in INDUSTRIAL FINISHING for February?—N. A. Motor Co. Ltd., Birmingham, ENGLAND.

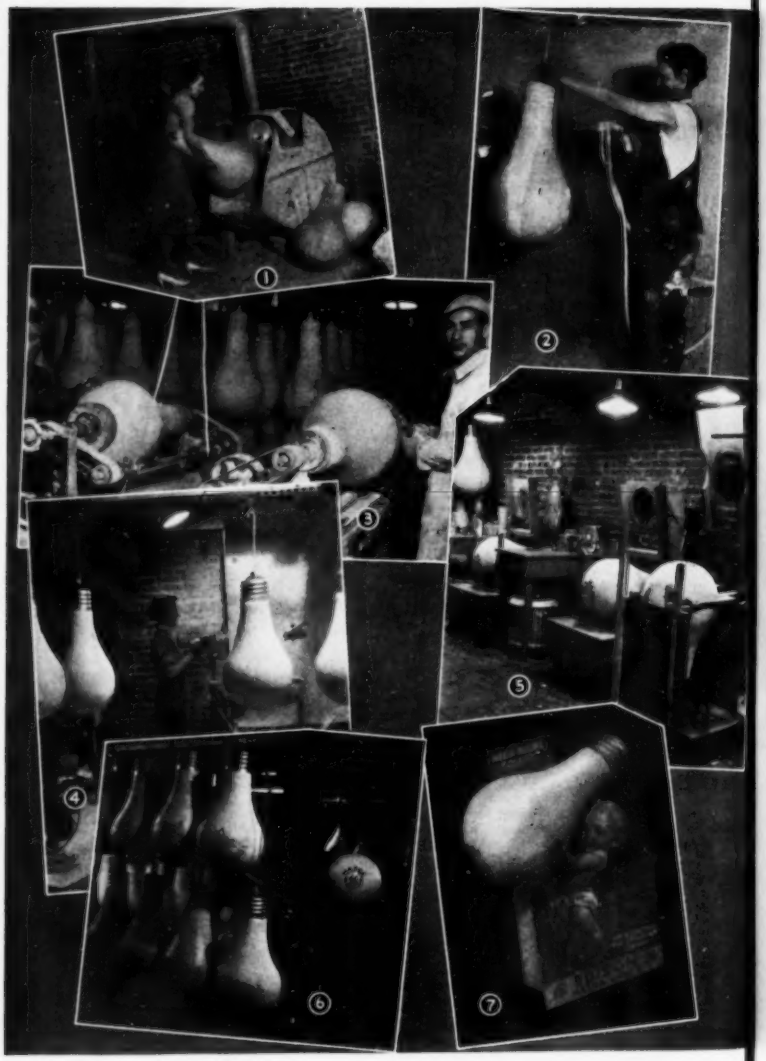
We would appreciate any information you could give us as to the manufacturer of the distillation equipment (solvent purifier or industrial still) mentioned in INDUSTRIAL FINISHING for February, 1937, page 74.—L. D. & C. Co. (Dry Colors).

The Solvent Purifier is a product of S. F. Bowser & Co., Inc., Ft. Wayne, Ind.—Ed.

## "Blanchit," Bleaching Compound

We are referring to an item that appeared in your January, 1935, issue on page 23 under the subject: "Blanchit (Bleaching Compound)," and since one of our customers, M— Co., is interested in the process and finish to be secured with this type material, will you kindly refer this inquiry to the manufacturers of

*(Continued on page 77)*



1—First, the molded-pulp bulbs are buffed on a wheel to smooth their surfaces.
2—Then the filler is sprayed on; two coats, each followed by a period of drying.
3—"Filled" bulbs are sanded in special lathes to smooth them up for finishing.
4—Spraying the lacquer which serves the dual purpose of sealer and finish coat.
5—Here the name and trademark are put on finished bulbs by silk screen stencils.
6—Completed bulbs coming forward by conveyor, ready for packing and shipping.
7—A bulb mounted on a typical attention-getting display in the dealer's window.

# FINISHING 33,000 *Dummy Light Bulbs*

by

**D. A. FARREL**
The Pulp Products Company

and

**H. H. MILLER**
The J. E. Harris Company

THE PULP PRODUCTS CO. of Massillon, Ohio, recently completed and delivered the largest single order for paper-pulp window display forms the industry has ever known .... 33,000 model electric light bulbs for the General Electric Co. of Schenectady, N. Y.—60 car loads. Needless to say, such an order presented a unique problem in production, as well as a difficult finishing problem.

Each bulb is 16-in. in diameter, 30-in. long and has a surface area of 8½-sq.ft. Automatic machines were employed to form the bulbs, each bulb being made complete in one piece and having a wall thickness of approximately ⅜-in. The machinery and process were invented and developed by the Pulp Products Co.'s own organization. It is the only installation of its kind in the United States.

Wet pulp in the form of a slush is forced into the molds under pressure, a fine screen holding back the pulp and allowing the water to pass through. Upon leaving the molds the pulp still contains a percentage of water; this is removed by special driers, after which the formed bulbs are ready for the various finishing operations.

The bulb in the white, fresh from the drier, presents a rough porous surface due to the screen marks from the mold. Operation No. 1, therefore, consists of smoothing the surface on a buffing wheel, after which the bulb is ready for the first filler coat. A special filler was developed for this purpose by the Pulp Products Co. Two spray coats of this filler are applied (see No. 2 in group of views) the first coat being allowed to dry 12 hours, while the second coat dries for three hours — this drying taking place while the bulbs hang in a drying rack (see background of view No. 3).

After the filler has dried thoroughly, the bulbs are sanded in special lathes, see view No. 3. Following this operation the surface of the bulbs is smooth but still very porous. Here the company faced a problem when the finishing process was in course of development. The problem was to find a finishing lacquer that would cover solidly in one coat over this porous filler—a lacquer coat that would serve as both a sizing coat

and finish coat. Ordinary lacquer penetrates into the filler, leaving a spotty finish of uneven luster. The lacquer also had to dry rapidly enough to fit the speed of the conveyor used on the finishing line.

Many lacquers were tested and many were rejected . . . because of insufficient coverage, poor finish, or slow drying. Many would not stand the rigid test for abrasion, adhesion, retention of flexibility, retention of color, etc. Finally a gray lacquer (name on request) was adopted as the best product for the purpose, from the standpoint of economy and appearance of the finish. The lacquer (containing nitrocellulose of the proper viscosity, in conjunction with the solvents of a suitable evaporation curve, the proper resin and plasticizer) fitted the production schedule satisfactorily and stood the tests imposed upon the dry film.

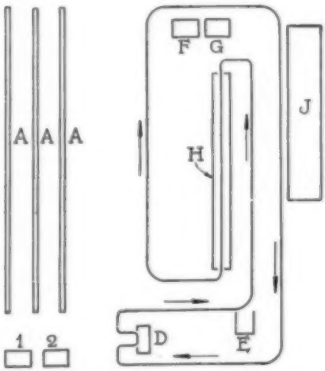



**Fig. 9—Plan of the production layout: A, A, A—The drying racks; 1 & 2—Spray booths for filler; D—Spray booth for gold lacquer; E—Spray booth for gray lacquer; F & G—Silk screen stencil tables; H—Steam drier; J—Inspection and packing department.**

The bulbs are removed from the drying racks (shown in background of view No. 3) and hung to an overhead conveyor. Referring to the production layout marked Fig. 9, the bulbs proceed first to spray booth *D*. Here the threaded end is sprayed, the operator masking adjoining surfaces in order to confine the gold spray to its proper area. The bulbs are then moved along to spray booth *E*, where the finishing lacquer is applied (see view No. 4). Then they are advanced to areas *F* and *G* where the trademark insignia is applied by silk screen stencils, as shown in view No. 5. Following this operation, the bulbs are hung from a conveyor so they pass over the drier marked *H* in Fig. 9. This drier is heated by waste steam from the pulp driers on the floor below. Finally the bulbs arrive in the packing department (marked *J* in Fig. 9) where each bulb is inspected and packed in an individual carton ready for shipment.

In view No. 6, bulbs are shown ready for packing, while in view No. 7, a bulb is mounted on a typical display ready for the dealer's window.

The conveyor used on the finishing line is 210-ft. long over all, and travels at the rate of 40-in. per minute, allowing a finishing schedule of 110 bulbs per hour. Two operators spray the filler coats, and two spray the finishing lacquer — one spraying the gold and the other spraying the gray lacquer. Three operators apply the stencils.

The lacquer is thinned 100%—that is one part of lacquer to one

part of thinner. One gallon of the mixture finishes 28 bulbs, each having a surface of 8½-sq.ft. This makes a total of 240-sq.ft. per gallon of thinned lacquer, or conversely 480-sq.ft. per gallon of the lacquer itself. By actual test, this proved to be the most economical lacquer tested during the preliminary trials, and the production record proved it to be the same.

## DeVilbiss to Erect New Plant

The DeVilbiss Co., Toledo, Ohio, will expand its rubber products division through the erection of a new plant on Lagrange St. near the Ottawa River. The new plant, 120x440-ft., will be of single story monitor type design with 55,000-sq.ft. of floor space, and will represent an investment of approximately $250,000 in building and equipment.

This improvement will provide the rubber division of the company with a much needed increase in production facilities. This is the third expansion and the second new factory required since the DeVilbiss rubber products division was established in 1924. Contract for the new building has been let to the Austin Co., and construction is to begin immediately.

The development of the rubber products division of The DeVilbiss Co. was prompted by the demand for a controlled high quality of specialized hose to meet the requirements of the painting and finishing industry. Acceptance of the product has been such as to justify the company in expanding its line to include a wide variety of types and sizes of similar quality hose for industrial, commercial and domestic uses. The division also manufactures tubing and bulbs for DeVilbiss atomizers; gaskets, respirator bodies and other items of mechanical rubber goods used in connection with the company's industrial equipment.

## Quarterly Dividends to Workers and Stockholders Alike

A new plan of sharing profits with their employes has been adopted by Roxalin Flexible Lacquer Co., Inc., Elizabeth, N. J., manufacturers of lacquer and synthetic finishes. One of the features of this plan is the presentation of 5,000 shares of new Class "B" stock to seven key men in recognition of their services to the company. These men are A. Miesem, Treasurer and Sales Director; W. Hanley, Member of the Board; J. L. Arnold, Director of Promotion; M. A. Dorian, Chief Chemist; S. S. Berger, Comptroller; R. V. Kirk, Secretary and Plant Manager; R. Sedgwick, Plant Superintendent.

Profits will be divided quarterly as follows:

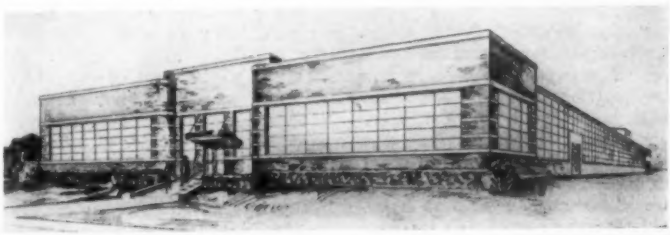
1) Dividends to holders of common stock.

2) Dividends to holders of Class B stock.

3) Wage dividends to all other workers.

The company is confident that its greatly increased business will give better returns both to stockholders and employes than the former plan (which was in effect for ten years) of paying its employes an annual bonus, based on a percentage of the net profits and divided in accordance with length of service and rate of pay.

Roxalin has recently purchased an additional plot, 200x216-ft. adjacent to its plant, with the intention of lengthening its present railroad siding and providing room for further expansion.



STORAGE, PREPARATION, HANDLING AND CONTROL OF

# Finishing Materials

by Albert F. Byers
Benjamin Franklin Paint & Varnish Co.

AT THE SUGGESTION of the editor, this article will take up the use of thinners, drying times, drying heats, methods of application, storage, etc.—and will attempt to show why these various factors must be properly controlled in order to give satisfactory and economical results. Or, conversely, what troubles tend to arise when these factors are improperly handled.

It is a big order, for this subject embraces a large proportion of the ills known to the finishing room, with the exception of those that are due to inherent faults in the finishes themselves. The best the present writer can hope to do is to hit some of the high spots.

Many of these factors, of course, are interrelated, so that a discussion of one involves consideration of others. For this reason I shall not attempt to isolate each topic and deal with it to the exclusion of all others. It would, for example, be impractical to discuss thinning without going into the question of drying times, humidity and methods of application. Nevertheless, for the convenience of the reader, I shall divide the text into headings that are as nearly definitive as is feasible for purposes of clearness.

**Thinners for new synthetics and lacquers; correct temperature of materials during storage, application and drying; viscosity of finishing materials; cause and remedy of such troubles as orange peel, dusting, bridging, bubbling and pin-holing; spray finishing; dipping; drying time versus drying heat; balanced performance.**

### Thinners and Thinning

Improper thinning is one very fertile field for trouble. The difficulty may be due to the solvent characteristics of the thinner, its evaporation rate, or improper ratio of reduction.

I shall discuss the solvent characteristics first.

Many finishers are in the habit of classifying all synthetic enamels into one distinct group, as against oil base enamels, nitrocellulose lacquers, spirit enamels, etc. As a matter of fact, however, there are many different types of synthetic enamels; some are soluble in petroleum naphthas; and some are soluble only in the usual coal tar naphthas.

Because a certain thinner is specified for one type of synthetic enamel, it does not follow that the same thinner will work satisfactorily for all synthetic enamels. It is well to ascertain whether the thinner required is of the petroleum or the coal tar type. Petroleum naphthas include V. M. & P., kerosene, and mineral (or petroleum) spirits. Coal-tar naphthas include xylol, toluol, benzol and hi-flash naphtha.

In addition to these two main groups of enamel thinners, there are also the hybrids, or hydrogenated petroleum naphthas whose solvency is stronger than that of the straight petroleum naphthas, but not quite so strong (as a rule) as that of the coal-tar thinners.

Turpentine, used as a thinner for some synthetic enamels, is neither a petroleum nor a coal-tar product, but is a complex organic compound forming the sap of a certain kind of pine tree. It might be termed a natural hybrid, however, since its solvent powers are closely allied to those of the hydrogenated petroleum naphthas —that is, between those of the petroleum thinners and those of the coal-tar thinners.

**Coal-tar Naphthas**

While it is true that the coal-tar naphthas, due to their greater solvent powers, are solvents for practically all types of synthetic enamels, the petroleum naphthas are satisfactory solvents for only certain types of synthetics.

Were it not for the troublesome factor of price, the finisher might play safe (as far as solvency is concerned) and use coal-tar naphthas for all types of enamels. But the petroleum naphthas are cheaper, and therefore their use is generally preferred in cases where they will do the work properly. The point is to be sure that they will do the work, and not use them indiscriminately. Sometimes it is poor economy to use the cheaper solvents, even when they seem to be satisfactory; but this phase of the subject has already been covered in this magazine by C. L. Nagel, in his article "Thinners and Thinning", which appeared in the July, 1936, issue. The reader is referred to the section of that article headed: "How to Compare Thinners." It is well to add here, however, that although the coal-tar solvents have satisfactory solvent powers, they should not be used for re-coat work with oil enamels, since their stronger solvency will tend to soften or dissolve the original enamel coat.

**Lacquer Thinners**

When it comes to lacquers, little trouble is experienced with the solvency of the thinners, since practically all lacquer thinners are interchangeable.

Most trouble here, so far as thinning is concerned, is occasioned by improper reduction, or by using thinners that evaporate too quickly.

The proper reduction for lacquers, as for other finishing materials, is usually specified by the manufacturer. This is all right so long as one also uses the thinner specified by the manufacturer. But to follow one manufacturer's recommendations while using another firm's thinner, is to invite trouble. In any case, it is well to determine the proper ratio of reduction by actual tests.

There is a general tendency among finishers to use low-boiling lacquer solvents; first, because they speed up production, and second, because they are cheaper than the high-boilers. However, extremely low-boiling solvents, because they frequently evaporate too quickly, are the most common cause of blushing, particularly in warm, humid weather. So much has already been written in these pages on the subject of blushing that no more need be added here.

**Orange Peel; "Dusting"; Pin Holes**

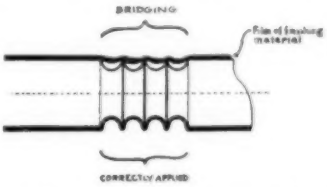
Low-boiling solvents are also sometimes the cause of orange-peel, although this fault may be due to improper spraying or insufficient thinning. When the solvent evaporates too rapidly it does not allow the finishing material to flow out properly, with the result that the film sets unevenly, giving an orange-peel effect. But if it is definitely ascertained that the thinner is not at fault, and if the trouble persists, then the chances are that the material is being sprayed in too viscous a state and requires further thinning—or else it is being applied in too heavy a coat.

"Dusting" is another trouble that may sometimes be attributed to the use of excessively low-boiling solvents. When the thinner evaporates too rapidly, there is a chance that the lacquer will dry between the time it leaves the spray nozzle and reaches the surface to be coated. In that case, it will fall on the surface in minute dried or semi-dried particles, thus presenting a dusty pebbly appearance. Here again, if the thinner is not to blame, the chances are that the spray operator is. He may be using too much air pressure, or he may be standing too far away from the piece being coated.

Lacquer thinners that are improperly balanced, that is, those that have in their composition extremes of low and high boilers without the proper intermediate boilers, often cause pin holes to appear in the finished surface. This is due to the fact that the film "sets" after the low boilers have evaporated. The high boilers are then "trapped" in the film and cannot escape (or evaporate) without leaving behind minute holes.

**Dipping Troubles—Bridging**

In dipping, the evaporation rate of enamel thinners, as well as of lacquer thinners, is a matter which should be carefully considered. If the product to be dipped is a long piece, it requires a more




slowly evaporating solvent than it would were it a small, short piece. This is due to the fact that long pieces require a longer time to drain, and if the solvent evaporates before draining is completed, ribbing and bridging may result.

However, bridging may be due to other causes besides using a thinner which evaporates too rapidly. It may be due to insufficient thinning in relation to time of withdrawal, or to the use of fin-

ishing materials that are too heavy in viscosity; or the rate of withdrawal may be too rapid in relation to the viscosity of the material. The illustration marked Fig. 1, shows what is meant by "bridging."

**Bubbles in the Finishes**

Another difficulty sometimes experienced during dipping operations is the formation of bubbles in the finish. There are several causes for this among them being:

1) The dipping operation may have been begun too soon after the finishing material was reduced, or agitated. During the stirring process, air bubbles form, and if insufficient time is allowed for these bubbles to escape, they may be transferred to the product being dipped. If the bubbles are not allowed time to escape naturally, they should at least be combed out before the dipping operation takes place.

2) Air bubbles in the finish are sometimes produced by withdrawing the piece too rapidly.

3) Occasionally, when wooden articles are being dipped, air bubbles will form in the dipping tank after all precautions, except actual combing, have been taken. This is due to the fact that sometimes air is trapped in the pores of the wood, and is displaced by the dipping material in the form of small bubbles. Such bubbles form only occasionally, but, if the liquid is not combed from time to time, they may accumulate sufficiently to impair the finish.

One method of eliminating air bubbles from the finished surface is to allow the article to hang over the tank for a few minutes after dipping is completed, and before transfer is made to the drying racks. The fumes from the tank will thus help to draw the bubbles out.

**Drying Times and Drying Heats**

The relation between time and heat, in reference to baking finishes, is usually spoken of as the "baking cycle". In general, it may be said that when a change is made in the baking time, a compensating inverse change should be made in the baking temperature, and vice versa. If the time is shortened, the temperature should be raised; if the temperature is lowered, the time should be lengthened. Of course, we can only speak in generalities on this particular point, for there are many different types of baking finishes whose time and temperature limits vary widely one from another. Nevertheless, we can point out that if the baking temperature is raised beyond that specified, without shortening the baking time, there is usually grave danger of discoloration — and in some cases even charring. On the other hand, if the temperature is lowered without lengthening the baking time, a tacky finish may result.

**Handling and Storing Finishing Materials**

Improper handling and storing of finishing materials is a frequent cause of trouble. Extremes of heat or cold should always be avoided. Finishing materials that are stored outside of buildings are often rendered unfit for use during cold weather. It is a well-known fact that temperature affects viscosity. As the temperature is lowered, the viscosity

tends to rise, and vice versa. When drums containing finishing materials are left out in the snow or exposed to the rigors of winter, such materials frequently become too thick to use. Sometimes they may be brought back to normal condition by heating, but that depends upon the nature of the finishes. Varnishes, for instance, tend to seed out, as well as become thick, when exposed to extreme cold—and subsequent heating will not readily correct this condition.

On the other hand, finishing materials stored indoors are sometimes subjected to too much heat, as when they are carelessly placed against steam pipes. While it is true, in general (as stated above) that raising the temperature of a material usually tends to lower its viscosity, yet in extreme cases the reverse is sometimes true. In some types of finishes, too much heat produces a chemical reaction which results in abnormally high viscosity, and subsequent cooling will not normalize it.

To play safe, therefore, all finishing materials should be kept at average room temperature until ready for use.

## Spray Equipment Catalog

The Eclipse Air Brush Co., Inc. (low pressure air brushes), 79 Orange St., Newark, N. J., has just issued a new catalog consisting of loose leaf illustrated bulletins, bound in a 3-color binder 8½x11-in. Equipment listed, described and illustrated includes: Hand and automatic spray guns, nozzles, nozzle extensions, material containers, pressure tanks, hose, separators, spray booths, exhaust fans, respirators and portable spray outfits.

According to the company's letter, "There are no fundamental changes listed, with the exception of the substitution of Dowmetal for aluminum in the construction of the guns."

## Lawrence McFadden Appoints Paul W. Binckley

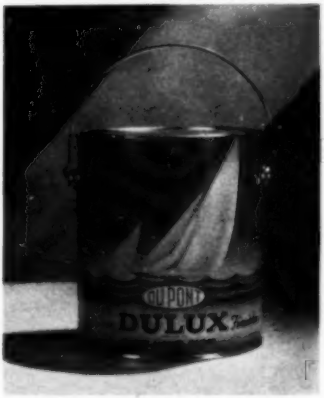
Effective February 1 Mr. Paul W. Binckley joined the Lawrence McFadden Co. of Philadelphia as their representative in Ohio, West Virginia, Kentucky, Indiana and Southeastern Michigan.

Mr. Binckley is well known in this territory and has many friends among the furniture manufacturers. He has had many years of experience and is highly regarded as a practical finishing man.

## Wins First Prize as Most Attractive Package

The new du Pont Dulux marine container, illustrated here, has been awarded honorable mention for the Irwin D. Wolf Trophy. This trophy is awarded annually by the American Management Association for the best-designed package of the year. Eight hundred packages were entered in competition.

The judges awarded first prize to this container for the most effective use of color. It was also judged the




**Colors are red, blue and black.**

best in the competition from the standpoint of merchandising value and beauty.

The new container is designed in red, blue and black, and shows a yacht in full sail against a brilliant blue sky. It was designed by Stuart L. Johnston of the du Pont Co.

# *Automobile Finishing—II*

## FINISHING STEEL BODIES AFTER METAL CLEANING

**This is the final installment of a two-part article, wherein the author had the cooperation of the paint foreman in one of the West Coast assembly plants during 1936 production. Operations taken up here include all of the finishing operations . . . . from priming to polishing and striping inclusive.**

●

by Francis French

IN A PREVIOUS ARTICLE on this subject (March issue, pages 50-56) I brought the procedure on automobile bodies from the metal department, through the cleaning operation and the alcohol wipe, to the priming operation. It is my purpose now to follow through the painting operations, until the finished body is delivered to the assembly line.

Priming is the first work in the actual application of the finish. In the small 6-car per hour production that we are considering, the primer group consists of one man equipped with a pressure pot and a long hose—20 ft. or more. He can walk entirely around the car body. A medium coat of oil primer is applied. On a greater production, two primer spray men are employed, one working on each side of the body. In larger production a paint-circulating system, with material ready for use and under pressure, is used.

In the plant under consideration, the primer comes by truck from the paint-mixing room, where it has been thinned to proper spraying consistency.

It is delivered in 7-gallon containers which fit easily into the pressure pot. The pot has an agitator that keeps the material well stirred so the pigment remains in suspension. This agitator is usually a small air blast that keeps the primer slowly circulating. A day's normal production will require 15 to 20 gallons of primer. The variation in amount is caused by two systems of priming recommended by different paint manufacturers' service men. Some recommend a complete hiding, while others insist on a mist coat through which the gray metal of the body may be dimly seen.

From experience, the concern under discussion prefers the former system, as they believe it is the most satisfactory. The primer coat should be a solid-covering well-dried film, having maximum adhesion. In cases where a thin

coat is applied and the metal shows through, the following coat of surfacer strikes through in the lightly or thinly covered areas, weakening the adhesion of the primer. Surfacers contain maximum pigment in their composition, which makes for poor adhesion, while primers contain binding and adhering liquids.

It goes without saying that in the application of automobile primer, careful supervision is necessary to make sure that the air pressure on the tank and on the spray gun are adequate to properly atomize the primer and prevent "orange peel". The adjustment of the spray gun itself should be checked also. Prevention of "orange peel" in the primer is as necessary as in later coats, to obtain a perfect finish. In passing, I might define "orange peel" as being a rough pebbly effect similar to the surface of an orange. It is caused by various things, of which two of the most common are incorrect air pressure and viscosity.

When the primer coat is completed, the body passes into the baking oven where it bakes for 1½ hours at a temperature of 200° to 220°F. The primer would air dry eventually, but the baking hardens it rapidly and permits a speeding up of operations.

### Applying "Surfacer"

The next working group is the surfacing section, consisting of one man. This operation includes filling the low spots in the metal. It is a heavy sprayed coat, free of sags and runs, entirely covering the outside area of the body; also the instrument panel.

Surfacer is hard to spray and precautions must be taken to get the air pressure and gun orifice correct, or sags will appear. These are difficult to remove and cause plenty of headaches all along the line. Delayed sags sometimes do not show up until 15 minutes after the spraying operation, when an excessively heavy coating of material will suddenly slip.

The surfacer is also delivered from the paint-mixing room in 7-gallon containers, which are put in the pressure pot as the empties are removed. Approximately twice as much surfacer is used, in comparison, as primer.

Regarding the material left in the pressure pots at night or after the day's production run, this should be returned to the paint-mixing room where it is strained and checked for viscosity before being sent back to the spray booth, next day.

### Baking Surfacer; Wet Sanding; Drying

The surfaced body then continues into the oven where it remains 1½ hours at 200° to 220°F. After this baking, the thoroughly hard surface is ready for the next step —the wet-sanding deck. This group consists of seven men, two on each side, two at the rear, and one at the front of the car body. The purpose of this operation is to cut and sand the surfacer and smooth the body all over. Every part of the surfaced body must be sanded, removing the orange peel, if any, and leveling the surface to a hard smooth film. Any missed spots will permit the lacquer coats to strike in, and then they will show as dull spots; and no amount of buffing will brighten them up satisfactorily later on.

This sanding operation is performed with No. 320 wet-or-dry sandpaper or emery paper. Each operator works from the top of the body down, and has an individual hose with which he keeps the area being sanded continually wet and washed free of sludge. Coarser sandpaper, although it cuts faster, is undesirable because it is likely to produce deep scratches which will certainly cause trouble. Also, this sanding should not cut through to the primer. This sanding work must be thoroughly checked by the supervisor; spots to be resanded must be marked with chalk.

After the work is completed the body is "blown out" or oven dried. The latter procedure is best, the body passing through a drying oven in 45 minutes at 150°F. Then the cut-through places are touched up. The body is now ready for the finishing coats.

So far, in the priming and surfacing operations, nine men have been required, or 1½ man hours per job.

### Synthetic Enamel Finishing

If the jobs are to be finished in synthetic enamel, the system is more simple as to operations, but much more difficult as to conditions. In the enamel system two spray booths with spray men are required. These booths are screened or glassed in, to prevent dust from blowing in.

Equipment in this enameling operation is the most troublesome in the whole line. Ideal conditions are very difficult to obtain. The air must be washed and dust free; the temperature should be uniform; and the spray booths should be wiped down daily with castor oil to catch any lint and dust, because if this gets into the finish it is hard to remove later—and no touch-up operations are easy or desirable.

Air conditions in the enamel spray booths are most exacting. Vents under the body remove air from below, while openings overhead take care of the upper zone. Washed and filtered air is being constantly introduced from the sides to replace the air drawn out by exhaust fans. In some cases a water film runs down the sides of the spray booth to minimize the dust hazard. Operators permit no one else in the booths, to set dust or lint afloat in the air. They wear special clothes and a respirator with only their eyes showing.

The aim is to obtain what is called a "dead spot" in the air about midway of the car body; and also between the two booths, thus pulling all dust and fumes away from both top and bottom evenly—and at the same time introduce enough washed air, along with what the spray man is using to spray his enamel, to properly balance the outflow.

After the body has received two coats of synthetic enamel—one on top of the other, and they are medium heavy coats too—the job is run into the oven and baked for 1½ hours at 220°F. When cool, it is striped and sent to the assembly line for hood, fenders, motor, etc.

### Lacquer Finishing

Where the finishing coats are to be lacquer, the group consists of four men in separate booths, each spraying one coat. The first coat is thinner than the three

following coats. A short air-drying period of three to six minutes is allowed between coats.

The finishing material comes from the paint room in 7-gallon containers, ready to spray, and is put directly into the pressure pot. Excess lacquer is also removed after the day's production is run, and returned to the stock room. Color changes in the line are accomplished by changing containers and either blowing out the material hose or using a separate hose for each color. The modern idea is to standardize on a few colors and then have a material hose for each one.

The spray operators on the finishing guns are the best and most experienced mechanics, having graduated from the priming and surfacing booths, and they command the highest wages. The lacquer finishing operation will take a charge of 2/3 man-hour per body.

From the last finishing booth, the body passes into a small oven for force drying of the lacquer coats. This oven is heated to 120°F., and the body passes through in 30 minutes.

**Sand; Touch-up . . . .**
**Buffing; Striping**

After leaving this force-drying oven, the body goes to the next group consisting of six men who sand, touch-up, polish and stripe. The sanding is done with No. 360 wet-or-dry finishing paper, kept continually wet by the operator holding a soaking sponge. Also, the paper itself is soaked for ½-hour before being used. The sanding is kept to a minimum, and is only done where necessary to remove spray dust, nibs, etc.

The body is then polished with power buffing wheels and a compound prepared for this operation. The wheels are powered with ¼-hp. motors and are covered with sheepskin, wool and all. The wheels vary in speed, some being fast and some slow, according to the work. Some colors polish more easily than others; dark blue for instance, is particularly hard to polish. A sheepskin of good quality should last through 12 cars.

The compound left on the flat and rounded surfaces is removed with a clean dry wheel, and what is left in the crevices and recesses is taken out with a small stiff brush. The job is now carefully inspected for its final finish. Rejected spots are touched up with a small touch-up spray gun. These resprayed spots are hand polished with a rag and compound.

Striping is next in order. While some machine striping is done, most of the striping in this plant is performed by a rapid skillful hand striper, who commands a high rate of pay. After this striping operation the finished body goes to the assembly line to receive the remainder of its parts.

From the point where the body entered the cleaning department, up to its departure to the assembly line, there has been expended in labor, slightly more than four man-hours per job—and man hour cost per job, is what interests the production superintendent.

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## Air-Conditioning Book Free

The Consolidated Air Conditioning Corp., 114 E. 32nd St., New York, N. Y., announces publication of a booklet entitled, "Consolidated Odor Absorbers in Air Conditioning." This booklet covers the cost of operating an air-conditioning system.

# Finishers I Have Known

## by R. Jay Burns

**The author, representing a manufacturer of finishing materials and writing under a nom de plume, frankly tells what's the matter with so many foremen he meets, explains how to pick out a good finishing foreman, and reveals why some men get better jobs and better pay while others remain "stationary" for years and years . . . and why others are scheduled to be replaced by younger men.**

▼ ▼ ▼

IN MY CAPACITY as adviser to manufacturers regarding their finishing problems, I am frequently asked to recommend a man for the position of foreman finisher, or just plain spray hand. In this article I will share with you some of my experiences with finishers.

The finisher usually performs the last operation on an article. He adds the finishing touches; gives the work the final gilding that will make it attractive in the eyes of its future owner. So important an operation deserves extra attention. It is good business—a matter of dollars and cents—to see that it has extra attention.

### See What He Looks Like In Working Togs

When I select a finisher, I like to see the man in his working togs. If he is as neat in his personal dress as his job will allow, then he will do a neat and workmanlike job of finishing. If he is naturally dirty and slovenly, his work will be sloppy. A careless finisher can waste enough material and make necessary enough touching up and refinishing to be a very expensive luxury to his company.

One of my clients has a fairly small but well equipped plant where he manufactures an electrical appliance that is sold to professional men. The item is bulky but requires a very careful finish. In selecting a man for this work, he employed a high school graduate—an intelligent chap who realizes that the job of finisher can lead to an executive position, just as surely as any other job in the place.*

This lad had to be taught every single thing about a complicated finishing schedule. Being intelligent to start with, he learned quickly and, after a few weeks on the job, he was more of a finisher than many men who have manned

*The Editor personally knows a man who for years was foreman finisher, and then was suddenly made general manager (over the superintendent) of the furniture factory, which position he now holds and has held for several years.

a spray gun during all of their working days. He never missed an opportunity to talk to salesmen and service men from paint companies. He visited neighboring plants to see how they handled

Starting out as a spray hand . . . .

their work. He read INDUSTRIAL FINISHING, and other trade journals that deal with finishers and finishes. In other words, this fellow wanted to be a good finisher and so he has become a good finisher.

When you walk into his spray room, you find him dressed neatly and wearing an apron or coveralls to protect his clothes. By removing his apron, he can step into the office any time and be as neat and clean as one of the office clerks. His equipment and room are just as clean as his person. Neatness and cleanliness are natural to him.

This lad is only one of several men of similar caliber whom I meet. Some of them start as spray hands and work up to be foremen. Others are with growing concerns and are the natural selection as foremen when it becomes necessary to add assistants in the finishing room.

### Why This Experienced Man Didn't Get a Raise

A few weeks ago, I had a talk with a finisher who was feeling blue about his prospects for advancement. He is a middle aged man and has been on this job ten or twelve years. He was probably an experienced finisher before coming with this concern. During all these years he has manned a spray gun and has done just what he was required to do —and no more. Receiving instructions from the paint salesman as to how to mix and spray and dry each material, he has learned to handle only these particular materials.

He has not taken the trouble to inform himself about new finishes that might interest his boss. He has done nothing to bring himself to the boss's attention. He is a fair finisher and just gets by. There is no reason to suppose that he will ever be anything else. When he gets a little older, there is good reason to believe that the boss may be attracted by some wide awake youngster whom he will recognize as being a better man to have on the job.

Probably there are more of these "fair" finishers to be found than any other kind. Most of them know just enough to get by. They are not good enough to merit promotion, but they are not so poor that they should be discharged. Many of them, with a little effort, could more fully realize their ambitions.

**Modern toys are ruggedly constructed to withstand all the hard knocks and rough use they invariably get from children. But rugged construction alone is not enough. Toys need a rugged finish, too—a finish that stands up under all the ordinary handling of manufacture and shipping, as well as under the extraordinary wear and tear after they are sold. In short, toys need a tough A. & W. "Tailor-Made" finish. Manufacturers of all types of metal equipment—toys, furniture, partitions, containers, closures—now use A. & W. "Tailor-Made" on their products to improve their appearance and wearing qualities. Call in the A. & W. man to help you end your finishing troubles.**

A & W

AULT & WIBORG CORPORATION

NEW YORK, N.Y. CINCINNATI, OHIO

HIC ET UBIQUE

**Another Foreman Scheduled to be Replaced. Why?**

I know one wood cabinet shop that employs about 50 men in the finishing department. Any wood finishing is a most exacting operation, but the work in this plant is more particular than usual. The foreman in charge is an old time wood finisher. He is so typical of dozens of such men whom I know, that it is well worth while to take a more intimate look at him. He has been a finisher in this plant 20 years. He was here when varnish was used exclusively. He saw the development of lacquers, non-grain-raising stains and quick-drying fillers. He saw the advent of buffing lacquers and is seeing the first wobbly steps of clear synthetic resin varnishes. (Watch them during the next few years!)

This man knows his job thoroughly and handles his men well. In spite of this, the president of this concern told me, at the beginning of this year, that he was advancing a bright, young chap to the position of assistant to this foreman.

"Old Charley (that is not his real name) is all right," he said, "but we need someone who is more willing to try some of these new things. It's like pulling teeth to get Charley to try samples."

Charley is a busy man and can not take time to try a sample from every lacquer salesman that comes along. Where he has fallen down is by putting all samples in the same class; failing to try the ones that merit his attention, and thereby failing to keep up-to-date.

This is not a case of youth replacing senility. Charley is not more than 45. He should be good for another 20 years or more. He has simply decided that he has found the best combination of finishes to do his job, and has failed to make allowances for evolution.

**He Wouldn't Change Materials**

For example, on one job he was using shellac as a primer or sealer coat. Shellac was used as a sealer under lacquer long before a satisfactory lacquer sealer was ever developed. There are places where it is still a desirable sealer. In this particular instance, however, the lacquer was being buffed on a wheel. Shellac heated and expanded under the wheel so that, when the work cooled and contracted, the lacquer lost some of its brilliance and depth. A nitrocellulose sealer that did not heat and expand was suggested. Charley refused to try it because "he had tried sealer so many times and he knew that shellac held the lacquer out better and gave a fuller finish."

**Old Charley got so that he wouldn't try a sample of any new material.**

During Charley's absence, the young assistant tried the sealer

# LINGERWETT

## Largest-selling remover in United States

***Why?*** — because it is the fastest of all removers. Lingerwett takes off an old finish clean as a whistle . . . leaves the surface smooth as silk. Lingerwett is QUICK, SAFE and THOROUGH. You can save time and labor stripping lacquer, varnish, enamel, shellac, paint, anything. Harmless to hands or wood. Try it.

* * *

We also manufacture a semi-paste remover—the famous WONDERPASTE. This is the best remover for doors, walls, partitions around your plant—also for exteriors.

WILSON IMPERIAL COMPANY NEWARK, N. J.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

and proved its merit for this job.

I do not advocate replacing experienced men with bright, young high-school boys. Every business needs men with experience. What I do suggest is that as we progress, new things are being constantly developed; and the wide-awake man will have his eyes open and be able to differentiate between something that is really new and something that is just a competitive product.

### The Foreman That's "Crummy"

The last type of finisher that I will describe, fortunately, is in the minority; yet you do find him in the most unexpected places. This man's appearance gives him away right at the start. He is what we call "crummy". It is almost unbelievable that a man can get so dirty, but more mystifying that he stays so dirty! A very dirty man has a place in a heat-treating or forge room. He can not keep clean there; nor does the dirt that he accumulates affect his work. But he certainly has no place in a finishing room. Any man who is so very careless of his person is lacking in the instinct for neatness that is essential in all finishing rooms—regardless of how crude the finishing operation.

This chap will grab the first convenient stick with which to stir his paint (when he stirs it). I saw one such man ruin five gallons of light ivory enamel by using a paddle in it that had been in a can of black. He usually neglects to cover a paint can, permitting the solvent to evaporate and letting dust get into it. When he spills paint on the floor, he doesn't take the trouble to wipe it up. The result is a paint accumulation on the floor that is a fire hazard, in addition to being unsightly. Instead of running solvent through a spray gun immediately when he is through using it, he hangs the gun up dirty and

The crummy type—messy, slovenly and slip shod in his work—and the work shows it.

then usually has to take it apart in order to clean it when he needs it again.

It is doubtful whether this fellow will read this article. He is not given to improving his technique. Periodically he hits up his boss for a raise in pay, and constantly crabs about his working conditions. Perhaps his boss will see this suggestion and do something about putting him in a more comfortable position.

*Just now there is a definite shortage of experienced finishers. This trade is like other trades; no apprentices have been trained during the last half dozen years and now, that business has picked up, trained men are scarce.*

There are still a lot of bright young fellows in CCC camps, and others are graduating from high schools and colleges. Wouldn't it be good business to select some

**From Our Own Spray Room Troubles Came—**

# The PUROLATOR AIR SEPARATOR

Purolator engineers have developed an air separator, so positive in its action that all of the commonly accepted troubles caused by the condensation of moisture and oil vapors in compressed air lines have disappeared.

The Purolator Air Separator is not offered as a "cure all" in the application of spray painting. It cannot correct such conditions as improper temperatures, unclean surfaces, excessive atmospheric moisture, etcetera. But with those factors properly handled, it will prevent blushing, blistering and peeling, by furnishing to the spray gun nozzle air that is, for all practical purposes, clean and dry.

Purolator Air Separators are tapped for ½" iron pipe, and should be placed as near to the spray gun as possible. They are light in weight and can be supplied with or without a supporting bracket. We solicit your inquiries. Motor Improvements Inc., Newark, New Jersey, makers of

**PUROLATOR**

**The Oil Filter**

of the neater ones and make finishers out of them? The more crummy ones will have to do something less exacting.

Most manufacturers of finishing materials and finishing equipment will welcome the opportunity to help train an intelligent man. The more he learns about his job, the less servicing will be required by that account. These concerns get their business from only satisfied customers.

## Finish for Skis

On page 63 of the February issue you carry an inquiry and reply about the finishing of skis and, inasmuch as you solicit the comments of your readers, I offer mine herewith:

From my experience as a devotee of the sport I have gathered some information on the subject, and I was interested to read your recommendations.

The process you outlined is considered good practice: A spar varnish for the top of the skis and an application of warm or hot raw linseed oil for the bottom. The application of oil, however, has nothing to do with the gliding qualities of the ski. It is merely to seal the wood against moisture and at the same time it is said to toughen the hickory. After oiling, the skis must be set aside for at least two weeks to allow the oil to impregnate the wood thoroughly. After this period, the skis should be rubbed down with fine sandpaper, since the running wax will never adhere to oil.

As a matter of fact, this oiling is generally left to the user, and the best skis are generally sold with a perfectly clear surface—not stained to cover any imperfections in the wood. A very light coating of varnish should be applied to the bottom by the manufacturer to seal the wood while in the dealer's stock, but this is always scraped off by the purchaser preparatory to base-waxing, since the wax must be applied to the bare wood.

I believe that some of the better manufacturers, such as The Groswold Ski Co., of Denver, Colo., have special processes for impregnating their skis with oil under pressure so that the entire ski is sealed.—J. C. HART.

## McAleer Appoints Chicago Distributor

A recent announcement by E. D. McAleer, Vice President of the McAleer Mfg. Co., 2431 Scotten Ave., Detroit, Mich., one of the largest producers of compounds for buffing all metals and finishes, appoints the Crown Rheostat and Supply Co., Chicago, Ill., as an exclusive distributor of such compositions. A full stock of all types of compounds will be carried and will enable this reliable Chicago firm to render efficient and prompt service throughout Chicago and adjacent territories.

## Both Silver Anniversaries

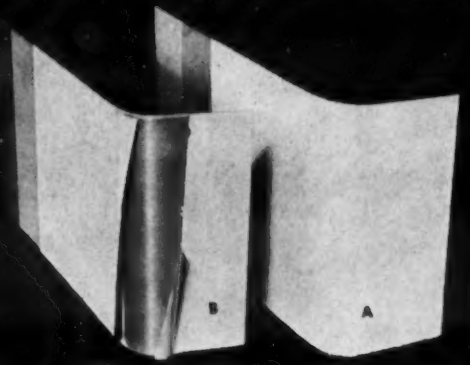
Not often does anyone celebrate two 25th Anniversaries at the same time. However this was the case with Mr. O. A. Both, President of the well known Bronze Powder House of O. A. Both Corp., Boston, Mass.

Mr. and Mrs. Both celebrated their Silver Wedding Anniversary on March 19th last, among a large number of relatives and friends in their home at Newton Centre, Mass.; and a few days later Mr. Both celebrated the 25th anniversary of the founding of his business in his Boston office.

Greetings and well wishes were received from all parts of the country, which were gratefully acknowledged. Here's hoping for two Golden Anniversaries, both in 1962.

# *A New* Synthetic Lacquer— *THAT CAN TAKE IT!*

Another scoop for Arco Research Laboratories: a high-speed, high-lustre synthetic system . . . long enough and tough enough to eliminate short film cracking at joints and mouldings. Note how conventional lacquer (panel B) "sheets" away to bare metal while Arco Synite Lacquer (panel A) remains impervious to severe cold and bending test. Especially adapted to use on Bus, Trailer, and Commercial Bodies. Send for details.




SPELLED ARCO

# ARCO Synite Lacquer System

THE ARCO COMPANY CLEVELAND LOS ANGELES

THREE SYSTEMS OF FINISHING MODERN

# Fiber Hampers

by Greggs Phillips

FOR MANY years laundry hampers have been an active item in department store outlets. They are supplied by manufacturers specializing in the so-called reed and fiber industries — concerns whose bulk production has been wicker furniture. Hampers are made during the off season for wicker chairs. They have been evolutionized from the humble basket-like hamper, constructed of reed and either finished or unfinished, to the present type of streamline design which is dressed up with a colored celluloid top. Today the hamper is a recognized article of daily production in a highly competitive trade.

The early type hamper, constructed entirely of reed, was weak and clumsy. It has been modernized by strengthening with interior wood struts which permit designs of more eye appeal. Strangely, however, the finish employed on the old-fashioned baskets is used today on the modern hamper; and for this type of merchandise it provides an excellent quality of finish.

With growth of the industry came the demand for a departure in finishing methods — primarily to effect lower costs of the finish without seriously impairing its quality. In this development synthetic-resin enamel has played a role and is now used extensively in spite of confessed disadvantages in its ease of application.

The conventional type hamper supplied at the present time is made of fiber (a twilled paper fabrication) in the better grades. For the lower-priced lines a fiber front is used, with the remaining sides just plain cardboard. Regardless of type, these hampers are all finished in practically the same manner, the system employed being a compromise with the selling price the manufacturer can obtain versus the quality his outlet demands. The finish systems are:

1) A paint paste undercoat followed by a pale wood-oil varnish.

2) A paint paste undercoat followed by a top coat of a mixture of paste and mixing varnish.

3) A synthetic-resin enamel.

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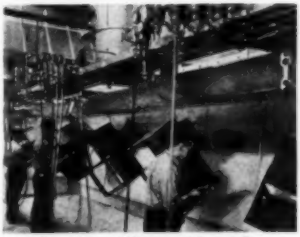
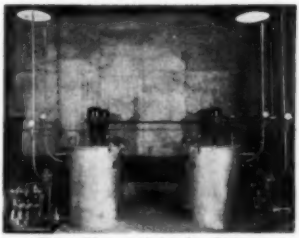


★ Spraying "Hotpoint" appliances on conveyor, Water Wash Booth equipped, at Edison General Electric Appliance Co., Inc., Chicago.



★ Two line paint circulating System at Sparks-Withington Co., Jackson, Michigan.

★ Use the same Spray Equipment that finishes your new automobile—new range—refrigerator. Binks Spray Equipment finishes the products of these and many other internationally known firms.

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The pastes used in the first two systems are short-oil products pigmented with lithopone. The essential difference in the pastes for systems No. 1 and No. 2 is that the latter is slightly "longer in oil." In system No. 1 the paste is reduced about 40% by volume with V. M. & P. naphtha for spray application. This paste paint application is allowed to air-dry overnight **before** applying the pale varnish top coat, which also requires an overnight drying. In the case of whites the yellowing tendency of the top coat varnish is offset by adding a small amount of white paste to the varnish.

With the second system, the paste is reduced at the rate of 14 to 16-lbs. to a gallon of V. M. & P. naphtha for undercoating. After overnight drying, a top coat mixture composed of about 2 to 4-lbs. of paste per gallon of mixing varnish is applied. This second paste-mixing-varnish system does not include a glue-size coat, which is used for seal-priming the work before finishing, according to the method used in the first system.

The synthetic-resin enamel type of finish requires a well sized surface. To obtain the best results, a thin shellac, rather than a glue size, should be used. The synthetic enamels I have in mind are reduced to spraying consistency with a 25% to 40% reduction with V. M. & P. naphtha. Being developed to suit the peculiar requirements of this industry, they are of the short-oil type . . . . have fairly high gloss, set up quickly, have good hiding power and coverage in one coat . . . . but unfortunately, some parts of the work require two coats.

The fiber braid used as trim along the edges of the hampers is rather tricky to finish, because the spray operator has to make sure that all visible interstices are adequately covered. The enamels having characteristically poor flow or leveling properties, there is a tendency to pile up the enamel in these places, resulting frequently in runs and sags. To **guard** against defects from this cause a number of manufacturers give these parts a mist coat of enamel or of paste color. In all, however, the enamels are satisfactory and permit of packing the hampers for shipment the day after they are finished, which is one to two days less than is required when using the paint-paste systems.

In the introductory remarks, mention was made of a celluloid top. This is nothing more than a "steal" from the toilet-seat industry. Sheets of celluloid are first backed up with a lacquer enamel matching the color of the hamper body; then softened in solvent, stretched and allowed to shrink on the wooden tops. Pleasing effects are obtained by contrasting the color of the tops, such as using a black top on an orchid-colored body, or a black top on an ivory body, etc.

To **the** unsophisticated **purchaser**, the method of finishing will have little significance. When the finish is worn off he will either discard the hamper or refinish it at home. However, the paste-mixing-varnish system will wear the longest and retain its initial appearance **better than** the straight paste-finished type, which is surpassed in appearance and durability by the synthetic-resin enamel finish. As in all other products, the finish should be both attractive and lasting.

## *Thrilling Finish Marks Running of Famous Blue-Grass Classic*

With 65,000 spectators shrieking in excitement and roaring in applause, Bold Venture won the 62nd annual Kentucky Derby at Churchill Downs, Louisville, on May 2, 1936. While the time fell short of the record of 2 minutes, 1 and 3/5 seconds established by Twenty Grand, the finish was easily one of the most thrilling in Derby history. Bold Venture literally won by a nose as the picture at the finish plainly indicates. The three-year-old chestnut colt was a long-shot winner. At the quarter, he was running eighth among fourteen contenders. At the halfway mark, he had cut down all the pace-makers and was out in front by a full length. In the back stretch, the post-time favorite, Brevity, came up with what news-men described as a "cyclonic rush" but Bold Venture held his lead to a history-making finish.

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# Spray Gun Performance

## WHY THE IMPROVED GUNS ARE SO MUCH BETTER

by Willard C. Beach
Willard C. Beach Air Brush Co.

**"Many manufacturers are playing a losing game trying to get their share of 1937 profits with .... 1927 'cap pistols' "—**

Willard C. Beach

A COMPARISON of spray guns today will convince you that there has been just as much improvement in their design and construction during the past ten years as there has been in automobiles.

Until 1927, it was general practice to make spray guns of bronze sand-castings. Then sand-cast aluminum came along; and in 1929 and 1930, forged aluminum heat-treated alloys reached a point of perfection where it was possible to use them in spray gun construction. Today, heat-treated magnesium (airplane) alloys, which are approximately one-third lighter than aluminum, have been found suitable for spray gun use. Besides being lighter, these new alloys are stronger and far more resistant to alkalis and solvents.

During this same period of time, makers of paints, lacquers and other finishing materials have been constantly improving their products — searching for more durable finishes which would shorten the time required in the finishing department. The greater "build" of film, with higher solids content per gallon, has spurred spray equipment makers to develop new guns and atomizing nozzles that would keep pace with the improved trend of finishes.

For a while this was accomplished by designing guns with larger airlines, air valves, fluid plungers, and fluid tips, until spraying became about the same as "blasting" a mist of atomized materials at the surface to be coated, with such force that an increasing majority of the coating material was lost in mist, fog and fumes. Spray booths with greater air-handling capacity were necessary to keep the booths free from spray-dust and hold down the fire hazard.

During the past five years, hydro-filter booths have been developed which greatly reduce booth cleaning costs and, in some cases, make possible and profitable the re-claiming of spray waste from materials.

But spray gun designers realized that the waste of the spraying process could not be cured by the simple method of adding more

solvent to reduce the viscosity of materials. Materials mixed for spraying contained only about 20% to 30% solids, and the high cost solvent content had to be extracted from the film between the nozzle and the surface, with the film solvent content placing a heavy burden on drying ovens.

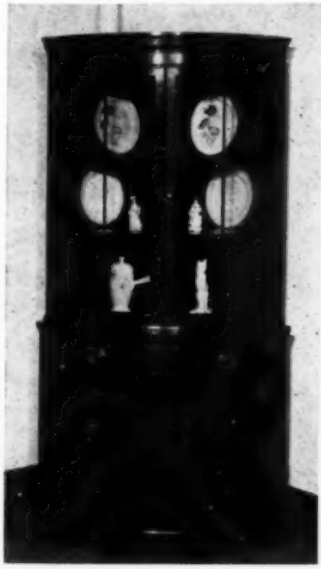
Little has been possible in the direction of solvent recovery due to the cost of handling large volumes of air with only one or two percent solvent saturation through refrigerating apparatus to condense the solvent. Obviously, the place to cure the evils of spraying was at the gun, and most equipment makers have made long strides in this direction during the last year.

Today, spray guns are available that atomize on the internal-mixture principle, where the fluid and air meet inside the nozzle or atomizing cap, and are forced through confined orifices. This improved type of nozzle handles material with twice the solid content and, with no solvent added to reduce material to a "spraying consistency," fumes and booth losses have been greatly reduced.

The new internal-mixture nozzles use considerably less volume of air but, by giving motion to the air, they create a "whirling" or "cyclonic action" in the atomizing chamber, which extracts several times the "break-up" or atomizing power from the greatly reduced volume of air consumed.

So, yesterday's spray gun can truly be called a "cap pistol" as compared with the high-caliber guns now available for those seeking to reduce their finishing costs.

AN EXAMPLE OF FINE FURNITURE



A corner cabinet—one of a 28-piece interchangeable 18th Century mahogany grouping. It includes new dining room, dinette and banquet size tables, and is among the fine numbers that made their debut at the winter furnishings market at Chicago's American Furniture Mart. A product of The Drexel Furniture Co.

## Stick Shellac for Bleached Wood Finishes

A letter from the Star Chemical Co., Inc., 2800 S. Crawford Ave., Chicago, Ill., announces that: "We have recently made up many new colors in our regular line of Star Stick Shellac and Star Lac Sticks, and feel sure that if you will pass the word along to your readers, they can secure stick shellac to match the new bleached wood finishes, such as blonde maple. We feel it will eliminate considerable difficulty that they are experiencing in the regular line of burning-in cement. Should any of your readers desire a sample, we are in a position to supply same."

## DECORATING FAMILIAR WOOD ARTICLES WITH THE

# *Stencil Screen Process*

by Harry L. Hiett
Manager, Prairie State Products Co.

WHILE materials that enter into different products for use in the home consist of wood, steel, glass and various types of composition, this particular article—the first of a series dealing with the use of stencil screens for decorative purposes—takes up the use of silk-screen stencil decoration on wood surfaces only.

In the early periods of history —the great wall era of China and the pyramid era of Egypt — the ornamentation of furniture and various other wares was done by hand, with a brush. If the ornamentation was to be done in a design in repeated order, a stencil was made from an impervious lacquer-stiffened fabric or papyrus, in a manner similar to the methods employed by our present-day decorators.

In many instances decalcomanias are used for decorative designs for objects made of wood. It might be said here that as far back as 1043 A. D., the Chinese used a transfer which was made by hand with the open-face stencil. Also, during the Ming Dynasty, 1368 to 1644, decorative transfers were printed from movable wooden characters.

On the other hand, while the open knife-cut stencil method, such as was used by the ancient Chinese and Egyptians, is still in use, the stencil screen method (which originated in this country about 1905 for making pennants) has become so popular that it is being used either in a supplementary or definite capacity by thousands of concerns where decorations or lettering, trademarks, etc., are a part of the finish on the product to which they are applied.

In the screen processing of the design upon novelty furniture, bric-a-brac, wooden appliances, toys, etc., the product is assembled, treated and finished in the usual way. Then the ornamental design is put on afterward with the stencil screen, using lacquer or long-oil process colors.

Where beading, molding or other relief work interferes with screen-processing the design on the finished object, it may be necessary to print certain sections and assemble them afterwards; or a special frame containing the stencil design might have to be made to conform with the extended portions of the object.

Where the sections are to be screen processed before assembling, the screen-processed design, in either one or more colors, is applied in a flat or semi-gloss me-

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dium paint directly upon the stained and filled surface or flat coat; after this the object is assembled and finished in the usual way.

In some cases, where it is impossible to screen process the design owing to the peculiar shape of the object, or where relief work interferes, a decalcomania transfer will solve the problem. Many concerns having a screen process printing department connected with their institution, make their own decals., using the screen-process method. They can make them in several colors, in grained effects for inlay work, etc., in lacquer, synthetic and printers' ink mediums.

Decals., made by the screen process are durable and bright in color tone. Where flowers, animal and nursery pictures, silhouettes, medallions, scrolls, and the like are used, individuality in design is apparent, whereas in the general run of lithographed transfers made for decorative purposes, a stiff printed appearance is evident.

### Using Bronze Powders

In addition to the different colors, bronzes can be screen processed, too. Also, the application

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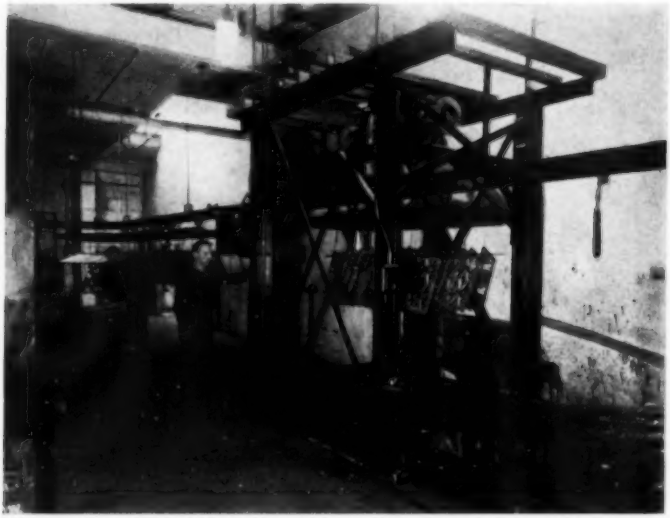
of gold or silver leaf is possible in making transfers. Where bronzes are to be applied directly to the finished product, the powder is mixed with a special vehicle which can be of clear screen-process lacquer, or an 18-hour to 24-hour synthetic varnish, or a bronzing liquid to which has been added a small amount of lithol varnish for retarding its speed of drying.

If the bronze powder is to be dusted on, the design is screen processed in semi-long-oil color, to which a small amount of japan gold size has been added, and left to set up to a finger-nail tack. Naturally, where bronze is dusted it is necessary that the underlying background coat be absolutely bone dry. Sometimes it is necessary to dust the underlying surface with talc or Spanish whiting before screen-processing the sizing medium. The same applies to the application of gold or silver leaf.

Accompanying this article, the writer has prepared sketches of a few items, showing where the screen process is being used to advantage on materials made of wood. The writer's next article will deal with screen process decorations for metal, both in air-drying, baking and vitreous enamel finishes.

## DIP-FINISHING AND HANDLING STOVE PARTS



A monorail dipping machine in operation in a stove factory. This machine, occupying comparatively small floor space, allows one man to do faster and better work than four men can do by hand dipping. It has been the means of effecting marked economy in paint consumption. Photograph, courtesy of Louden Machinery Co.

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# Air Pressure Spraying

by A. E. Zahn
Works Laboratory, General Electric Co.

THERE IS a great amount of speculation and varying advice concerning the proper air pressure to use when spraying. The following system is used by the laboratories, and is considered as the proper method by most experts:

The type of paint is the first consideration, after which the proper and best solvent is selected. The manufacturer's thinning recommendations are then attempted. After testing for flowing qualities with the recommended amount of thinning, the necessary adjustments to the original specifications are made. The thinned material is then sprayed through a standard test gun. An accurate air regulator on the air line is adjusted to a point at which the paint gives the most satisfactory appearance, when being sprayed by holding the gun at a distance of about 8-in. from the work.

Every operator should have his individual spray gun and air regulator equipped with a standard air gauge. Of course, in a case of mass production on a conveyor system, there is generally a control man who is responsible for spray guns and air pressures. The air pressures naturally must be determined individually for each different type of gun. The majority of all painting in large plants, where heavy parts are manufactured, is done with small one-quart size suction-type spray guns, and it has been found that the best average air pressure for use with these guns is between 35 and 45-lbs.

**Pressures used in spraying .... pressure regulators, how to clean spray equipment, oil-moisture-dirt filters, internal-mix and modern external-mix nozzles, etc.**

It is always best to have separate air lines for paint spraying, so that other air-operated tools which do not depend on air pressure regulation will not interfere with the regulated pressures for spraying.

If this is not possible, then there should be a double regulator installed for painting. Factory air lines often carry about 100-lbs. pressure. This should be reduced to about 50-lbs. with one regulator, and further to the spraying pressure with another regulator. In this way the operator will have a more even pressure for his work, which in turn will give more uniform results.

One cannot give too much attention to the care of his painting equipment. If the operator uses a small suction-type gun, it should be emptied and thoroughly cleaned

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after each job, and especially at night. He should always use the same solvent for cleaning the gun as was used for thinning the paint which was last used in it. After washing with solvent, it should be wiped dry and made ready for the next job. The nozzle should be removed and cleaned each time the paint is changed.

Probably the most important part of a sprayer's equipment is a good air filter; one that removes oil and moisture as well as dirt particles, and has the filter-pad change attachment, is being widely used.

An operator using a pressure tank probably has more work to do when cleaning his equipment, although he does not always need to empty his tank at night. However, if it is not emptied, it is very important that all the paint be blown back out of the gun and paint hose into the tank, after the pressure has been removed from the tank. When resuming work, the tank head should be removed and the paint thoroughly stirred; otherwise some of the settled pigment will cause blotches on the finished work.

### Selecting a Spray Gun

Probably the best way to select the proper type of spray gun is to find which type gives the best atomization of the paint used at the lowest possible pressure. The paint and compressed air are both very costly and for this reason, as well as the fact that with lower pressures there is less waste of material, the above method is being used for selecting spray guns and equipment.

The question of internal or external-mix nozzles has received much consideration and it is the writer's belief that in most cases the following reasons were given for selecting either of the above types of nozzles. The internal-mix nozzle has proved quite successful for use on exceptionally large work surfaces where very heavy materials were used and the finished work would be quite satisfactory for bridge construction, freight cars and the like. There are, of course, many internal-mix nozzles in use on much finer finishes than those mentioned, although when a high-class finish is produced with this type of gun, it is generally found that the flowing quality of the paint is almost entirely responsible for good results.

One great disadvantage which is generally encountered when using internal-mix nozzles is that each clean nozzle is usable only for a short time until cleaning again becomes necessary. Another failure has often been noticed, that being due to non-uniform nozzle orifices. Although one orifice may look exactly like the other, each one will give a different spray, and it will generally be found that an operator who possesses several nozzles of the same number has one or two with special markings for his own preference.

The external-mix nozzles also become coated over on the outside and require cleaning, but less often than the internal mix nozzles. When cleaning these, it requires only a simple wiping operation with solvent while the nozzle remains in place.

---

Flock or suede finishes have become popular both for decorative and utility purposes.

# TRU-TONE WIPING GLAZE

A material for producing the soft blended effect which adds to the attractiveness of many finishes. Features of Tru-Tone Wiping Glaze are its clean wiping, its freedom from muddy appearance, and the fact that it does not settle hard in the container.

Tru-Tone Wiping Glaze stays open long enough for most wiping, and may be cleaned up with a benzine rag. Colors for all popular finishes. The following are of particular interest:

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## "Diacetone," a Solvent

"Diacetone," a new product announced by Commercial Solvents Corp., 230 Park Ave., New York, N. Y., is an excellent solvent for cellulose acetate and nitrocellulose. It is a solvent for resins and gums, such as rosin, ester gum, shellac, manila, and most of the alkyd resins. Diacetone CSC is a solvent for many dyes and is miscible with many of the common oils, including castor, linseed, corn, sesame, and coconut oils. It is miscible with all common organic liquids and is also completely miscible with water. With water it forms a constant boiling mixture, boiling at 211½°F. This constant boiling mixture contains approximately 26% of Diacetone, by volume.

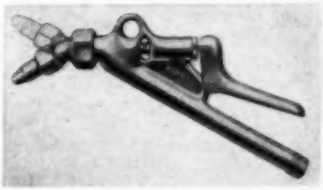
The strong solvent power of Diacetone CSC for cellulose acetate, in combination with its slow rate of evaporation, has made it particularly useful in the formulation of cellulose acetate airplane dopes and lacquers. It is also useful as a component in wood preservatives and non-grain-raising stains. It is characterized by a mild and pleasant odor.

Further information about this new solvent is revealed in a bulletin, published by the Commercial Solvents Corp.

## Binks Flow Gun

The Binks Mfg. Co., 3114 Carroll Ave., Chicago, Ill., is offering the Binks Thor Model 12 flow gun, designed for the application of sealing compounds such as rubber cement, cut-back and emulsified asphalts and similar heavy materials. It uses no atomizing air, but simply "flows" the material under air pressure from a pressure material tank.

It is used as a sealer gun for application of material around moldings and crevices on automobile bodies, refrigerators, etc.; can also be used to lay a heavy stripe of paint where spray application would be impossible. The No. 12 gun can be furnished with nozzles which will lay a heavy line from ¼ to 6-in. in width.



Applies sealing compounds, asphalts, etc.

One of the outstanding features of this gun is the almost straight passage from material inlet to the nozzle . . . . the possibility of clogging is reduced to a minimum. Nozzle can be swiveled in any desired direction. Material connection is standard ½-in. pipe thread. Nozzles for this gun are ¼, ⅜ and ½-in. round. Special nozzles are built to individual specifications, either flat or round.

## Spot-Welding Primer

The Sherwin-Williams Co., Cleveland, Ohio, announces an air-drying spot-welding black primer, developed primarily for automotive production manufacturers. This primer has won the complete approval of every manufacturer who has tested it. It should also have a definite appeal to commercial body builders and repaint shops that specialize in metal body repair work—and all manufacturers who use welded construction.

Air-Drying Spot-Welding Black

## . . . is the beautiful

# KEM ART METAL FINISH

The mellow pleasing tones of Rittenhouse Electric Door Chimes are matched by their smart styling and rich, colorful, finely textured Kem Art Metal Finish. This remarkably beautiful finish combines durability, washability and non-glaring qualities, with quick and easy handling by the finisher. It hides any minor surface imperfections—eliminating costly polishing operations; bakes to a perfect texture even on corners and beads, and requires but one coat for a full finish. Available in popular colors. Write for particulars to The Sherwin-Williams Company, Cleveland, Ohio and all principal cities.

SHERWIN-WILLIAMS
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Primer No. X9185 solves the problem from rusting of laped edges to be welded—a difficulty where partially fabricated parts are shipped or stored. It also overcomes the problem of spot welding surfaces that are given coats of ordinary paint, enamel, lacquer or varnish. Such a film tends to insulate the metal surfaces with the result that when sufficient current is used to weld the painted spots, so much heat is created the metal surrounding the painted area burns and gives a poor weld.

S-W Air-Drying Spot-Welding Black Primer has the following characteristics:

1) Reduction 150% to 200% with VMP naphtha. Xylol or toluol can be sprayed on sheet metal parts afterward.

2) Dries to touch in 10 to 15 minutes, and handled for spot welding in 25 to 30 minutes.

3) Permits instantaneous spot welding with low voltage and low pressure. Eliminates burning away of paint surrounding the spot weld.

4) Prevents rust forming between the laps, the place where moisture accumulates and causes most damage to unprotected steel.

---

Follow the manufacturer's directions until you find something better.

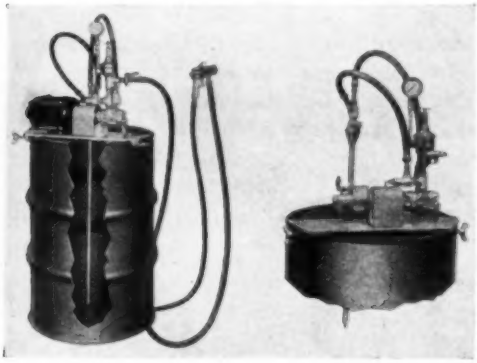
## Fluid Circulating Pump

The DeVilbiss Co., Toledo, Ohio, announces a new fluid-circulating pump, the Type QB, which offers an efficient, economical, safe method of delivering clear varnish, clear lacquer, and other non-pigmented finishing materials from the shipping container direct to the spray gun.

This new equipment, perfected after three years of experiments, eliminates the hazards of the old type pressure equipment when used on old or weak drums.

Operation of the unit is simple and efficient. The pump draws material out of the drum and generates sufficient pressure in the pump head to feed the fluid to the spray gun at the correct pressure, as predetermined. The speed of operation is limited only by the operator's ability to handle the gun. According to the company, "Reports from plants where the unit has been installed indicate time savings of 25% to 40% over gravity or pressure drum methods. A consistently higher quality of work is effected by unvarying fluid pressure at the spray gun."

Unit and hose can be cleaned each day after use. No dirt or foreign substance can get into the finishing material, which is protected by an adjustable sliding collar on the tube entering the drum.



**Available in either electric or air-motored type, the unit consists of: 1) a strong steel base plate on which is mounted the motor, pump, relief valve, and fluid regulator, and 2) a fluid suction and return assembly which can easily be inserted and quickly interchanged in drums with 2-in. or larger openings.**

# THE DEMAND FOR QUALITY IS INCREASING

**The Superior Quality of Our**

## COTTON, WOOL and RAYON FLOCKS

**for spray gun application on paper, leather, wood, metal and other articles is fully recognized by the leaders in the finishing industry as an aid to the production of better looking and more salable items.**

## CLAREMONT WASTE MFG. CO.

**CLAREMONT, N. H.**

**The country's leading makers**

The FILWHIRL CENTRIFUGAL ENAMELER is gaining tremendous popularity in several plants because of its performance in coating small parts—better, faster and at less cost. If you manufacture items such as nuts, bolts, handles, hair pins, wood and metal toys, golf tees, and the like, you can use the FILWHIRL to advantage in coating them. Write for facts!

**THE LEON J. BARRETT CO.**

**Grafton Street** **Worcester, Mass.**

# Coating Small Parts

Just send us samples of your products for coating in this machine, and we will return them for your inspection, together with cost figures, etc. Wouldn't you like to coat as many as 120,000 to 225,000 articles in an 8-hour day, as some are doing; and on real small items, finish as high as 600,000 per day? Large savings in dipping materials affected too. Learn more about this wonderful machine. Write us!

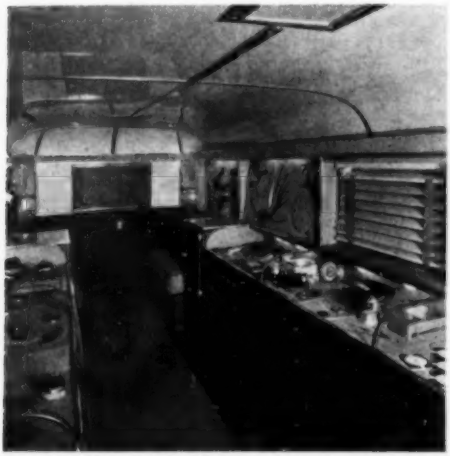
# Traveling Display of Fine Finishes

Roxalin Trail Blazer—a traveling display of fine finishes and finished products.

ON MONDAY, MARCH 8th a group of business-paper editors attended a meeting at the plant of Roxalin Flexible Lacquer Co. in Elizabeth, N. J., where they were treated to a tour of the plant and laboratories and a preview of the Roxalin Trail Blazer, the last word in graphic and mobile demonstration of what lacquer and synthetic finishes can do to protect and beautify manufactured products.

The Trail Blazer itself is a trailer, 22-ft. long, elegantly equipped and finished in two shades of blue and aluminum. The Roxalin flexible finishes used were applied at the plant. Several people can be comfortably seated to talk business over a table and there is ample room for visitors to circulate freely, viewing the exhibits which are placed in corklined wall panels and show cases. The displays present more than 200 parts and assembled products actually in commercial production, which have been finished with Roxalin flexible lacquer and synthetic coatings, in every conceivable style, design, color and shade, to stand every type of use and abuse, chemical and physical.

The basic materials upon which finishes are shown include metals, wood, rubber, textiles, leather and paper. The finishing problems were infinitely varied: resistance to human perspiration; resistance to weathering; resistance to chemicals — acids and alkalies; resistance to abrasion, blanking and forming. And in every case these resistance characteristics that preserve long finish life are the foundation for the all-important "Beauty-Style-Fashions in Finishing."



Interior of Roxalin Trail Blazer—interesting, attractive.

Every exhibit in the Roxalin Trail Blazer has a story to tell. The "Port Hole" test shows a piece of metal foil, clear-coated with Roxyn C (an air-drying or baking synthetic), spotted by nitric acid on the uncoated side. The acid has eaten through the metal to the transparent film and has stopped right there. Steel tubes

# SURFACERS

PORES NEED FILLING for smooth - textured attractive finishes. Presdwood, celotex, natural woods, rough metals and porous compositions need quick-drying, easy-sanding, high-bodied surfacers—in short, our CEL-U-LAK Surfacers.

These have unusually high body, coupled with low viscosity, permitting a heavy application by spray; air dry to sand in 1½ hours, force dry at 125° for 20 minutes. They are ground finely and have phenomenal adhesion and resistance to moisture.

CEL - U - LAK Surfacers are standard in white, ivory, dark grey and red. They have for 6 years been an outstanding successful item in our line. We suggest you examine it for your requirements.

*The*
VARNISH PRODUCTS CO.
CLEVELAND, OHIO

# THE PERFECTION IN MASKING TAPES

•

**PERMACEL**
The Paper Masking Tape

**JONFLEX**
Finely-woven Cloth Masking Tape

**INDUSTRIAL**
Coarser-woven Cloth Masking Tape

SAMPLE ROLLS UPON REQUEST

THE REVOLITE CORP.
New Brunswick, New Jersey

finished with one coat of Roxyn C withstand hard banging together without chipping, flaking or peeling. On discs finished with Blue Knight flexible finishes, the various stages of blanking and forming, after lacquering are shown. An interesting exhibit of the properties of the same material was the Brittling Test conducted by an electrical manufacturer. An aluminum fan blade, coated with this finish, was subjected to 212°F. in a steam oven for two years with no loss of flexibility or adhesion.

**Fashions in Finishing**

Rincon-trol, a texture synthetic, is portrayed as an easily controlled wrinkle finish without "fatty" edges, with fine-grained texture (small craters) and great resistance to perspiration. The Carrier Corporation uses this finish on some of its air-conditioning units, achieving extraordinary uniformity and fineness of texture.

A new style note in texture finishes is the combination Roxyn and Rincon-trol, two-coat, one-bake system. This combination is shown on zinc and aluminum die-castings to demonstrate the new fashions in finishing, resulting from interesting stencil applications and 2-tone work done with only one bake.

The applications of flexible finishes to non-metals are just as interesting. For example, the wooden Venetian blinds at the Trail Blazer windows provide a demonstration of four different finishing schedules. Textiles are printed with Blue Knight finishes without stiffness. Rubber and textile-covered cable, finished to meet Army and Navy specifications, show resistance to high heat, moisture and hot oil and possess high di-electric strength. This miscellaneous non-metals exhibit is topped off by molded rubber statuettes, and fur trimmed and plain galoshes coated with stretchable lacquers.

An extraordinary feature of Roxalin's operations, explained by Leo Roon, president, during the discussion at luncheon, is the fact that the company employs more men in the laboratories ("The Heart of Our Business") than in the plant—and that it pays.

The Roxalin Trail Blazer will present its story visually and graphically to manufacturers throughout the U. S., demonstrating how many applications lacquers have; how lacquers can brighten merchandise, no matter how dull or prosaic the base may be, making it salable; how lacquer will protect and preserve the product—in the ultimate consumers' hands; how lacquer will sell an article and make it stay sold.

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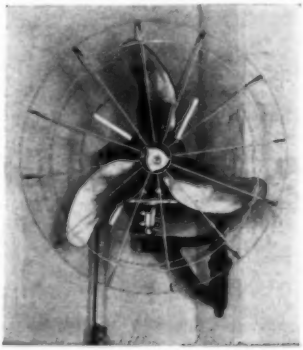
## Bracket Type Fan
### (Aero-Dynamic Design)

The Universal Mfg. Co., 324 W. 10th St., Indianapolis, Ind., announces a 1937 model ventilating and drying fan equipped with "wings"



propellor, and mounted on a bracket for fastening to a wall or post. It can be used as an exhaust fan, drying fan or ventilating fan. Operates off any light socket; 110 volts, 60-cycle A.C. The motor is a standard make guaranteed by the manufacturer; 1/6-h.p., 1140-r.p.m. Size of propellor, 24-in. . . . . moves 4600-cu.ft. of air per minute. Finish is ornamental black "Featherlac," very attractive.

# WALKER'S
# ALCOHOL AND HEAT RESISTING
# LACQUER *Used successfully on*

**Table Tops**
**Dining Room Furniture**
**Hotel Furniture and Bar Fixtures**

—Stands the severest tests, and wins highest satisfaction from the largest and most prominent furniture manufacturers and wood finishers.

*Send for Sample and detailed information.*

## H.V. WALKER CO.

Makers of Fine Finishes

ELIZABETH . . . . . NEW JERSEY

**ANHYDROUS ALCOHOL - TYPE SOLVENTS**

# ANSOL M
AND
# ANSOL PR

**Excellent for Dissolving Gums and Resins and for Nitrocellulose Lacquers**

*(Descriptive Leaflet on Request)*

## U.S. INDUSTRIAL CHEMICAL CO., INC.

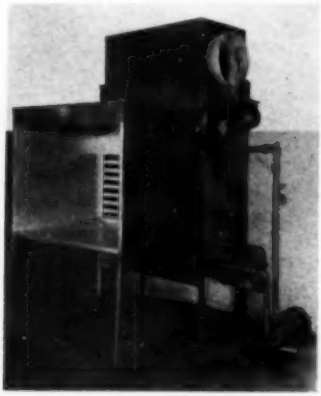
60 EAST 42nd STREET
*Branches and Warehouses in All Principal Cities*

USI

NEW YORK, N. Y.
*World's Largest Producer of Alcohol Solvents*

## Water-Washed Spray Booth

The Spray Engineering Co., 150 Central St., Somerville, Mass., announces a new water-washed spray booth. A battery of spray nozzles thoroughly washes the exhaust fumes preventing pigments or inflammable



One of the smaller models of the new water-washed spray booths.

solid matter from passing through the exhaust fan into the outside air. This greatly reduces the fire hazard in industrial finishing operations, protects the plant from unsightly deposits of pigments, and prevents damage to adjacent property.

Wet exhaust air is passed through a set of eliminator plates which remove all free moisture, returning it to the spray chamber for recirculation. Make-up water is automatically supplied to replace evaporation losses. These units come in parts easy to assemble and can be furnished in various sizes to meet special requirements.

The Spray Engineering Co. also manufactures a complete line of spray-finishing equipment, including various types of manual and automatic spray guns and accessories.

## W. G. Brown with Stanley Chemical Co.

Mr. William G. Brown of Toledo, Ohio, has been appointed by The Stanley Chemical Co. of East Berlin, Conn., as their direct factory representative in the State of Ohio. Mr. Brown was the superintendent of finishing, for several years, with the American National Co. of Toledo, Ohio, and prior to that connection, he spent several years in the finishing department of the Willys-Overland and Dodge Bros. automobile plants.

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## Elected to Board of Directors by Atlas Powder Co.

Maynard J. Creighton, general manager of the Zapon Division of the Atlas Powder Co. at Stamford, Conn., was elected to the Board of Directors of the Atlas Powder Co. at the recent annual meeting.

Mr. Creighton joined the Atlas Powder Co. in 1915, the same year in which he was graduated from the

M. J. Creighton, General Manager of the Zapon Division, is elected to Board of Directors of Atlas Powder Co.

University of Maine. After general experience in various plants and at the Perryville Ammonium Nitrate operations, he was transferred to the Wilmington office of the company in 1919 to take charge of the Research Division.

In 1924 he became associated with the Zapon Co. and became general manager of the division in 1935. In this capacity he has charge of all cellulose products manufacture and all sales for the company, including industrial finishes and coated fabrics. He also is in charge of the Zapon Brevolite Division with plant and offices at North Chicago, Ill.

# Larcoloid

THE PERFECT 1-HOUR DRY ENAMEL

## Cut Your Oven Cost At Least 50%

DURING the past two years, leading manufacturers of various products, big and little, have adopted LARCOLOID, the Perfect 1-Hour Dry Enamel, as their standard finish. They bake Larcoloid at 150° for fifteen minutes thereby cutting the cost of oven operation more than one-half and speeding up production in the factory.

You will be interested, then, to observe that here are two vitally interesting things which Larcoloid will do for every manufacturer, regardless of his product — ***cut costs and speed up production.*** Learn more about LARCOLOID.

**Larkin Co Inc. PAINT DIV., Buffalo, N. Y.**

Manufacturers of Enamels, Varnishes, Japans, Lacquers.

## *Economical—Saves Time and Material*

## SPEEDIP

## WHIRL ENAMELER

A foolproof and fast coating machine for lacquering and enameling all kinds of small parts. Simple and easy to operate. Complete self-contained unit. Dipping container is part of the unit, eliminating dripping and loss of material.

You do this! Mail some items of your make today. We will finish them and return for your minute inspection. You can't lose on such a demonstration.

**RONCI MACHINE COMPANY**

45 RIVER AVENUE, PROVIDENCE, R. I.

# Questions Answers

## Sheet Lacquer?

We are desirous of obtaining the names of manufacturers of lacquer in sheets. Our knowledge of what we are after is rather vague, but we understand that these sheets can be bought in stock designs and special designs that assimilate fancy wood grainings, etc. Would you be good enough to let us have the names of people manufacturing anything along these lines, as we are interested in using it on small novelty wood boxes.—D. D. Box Co. (Fancy and Novelty Boxes).

---

Regarding "lacquer in sheets," I am sure the inquirer is referring to sheet celluloid. You will appreciate, I am sure, that celluloid is fundamentally the same as lacquer for basic ingredient. Celluloid sheets of various thicknesses and styles can be obtained from a number of different sources. Being a booster for home industry, I naturally mention Dupont Pyralin (nitrocellulose) and Dupont Plasticele (cellulose acetate) sheeting. For further information I would suggest the inquirer communicate directly with the Plastics Division of E. I. duPont deNemours and Co., Inc., nearest office to New York being Arlington, N. J. There are a number of other suppliers, however, among them being:

Celluloid Corp.....New York, N. Y.
Fiberloid Corp., Indian Orchard, Mass.
Eastman Kodak Co., Rochester, N. Y.
The Insel Co.....Arlington, N. J.
Nixon Nitration Works.....East Nixon, N. J.

Sheets resembling grained wood are produced by printing onto the sheets with a pyroxylin ink, a photographic reproduction of a wood grain. After doing this the sheet will have to be sprayed with a "backing enamel", actually a colored pyroxylin, in mahogany, walnut, oak, etc. I doubt whether any of the suppliers would furnish the sheets backed with the enamel. This would have to be done by the sheeting user, or let out to some finishing shop.—GREGGS PHILLIPS.

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## Reclaiming Wiping Rags

The February 1936 issue of INDUSTRIAL FINISHING (pages 11 and 12) contained an article which discussed the reclaiming of wiping rags and waste. It mentioned that different formulas were used to clean these rags. We use a paste filler for filling oak wood. Could you tell us where we could obtain a formula for removing this material?—FURN. MFG. CO.

---

EDITOR'S NOTE: Oakite Products, Inc., replies to this inquiry as follows:

Our technical files reveal that in many cases this problem has been handled satisfactorily with an Oakite solution at a strength of one ounce to the gallon of water. Best results are secured when the rags are given a preliminary soak in a cold solution, as they accumulate. Then, when

there is a good batch of rags, they can be washed in a suitable washing machine, using a hot Oakite solution. The higher the temperature the better. Of course, where there are only a small quantity of these rags and the expense of a washing machine is not justified, the work may be done with any of the very simple installations shown in our booklet entitled, "Oakite for Cleaning Waste and Wiping Cloths". Oakite Penetrant is the particular Oakite material best adapted to this service.

In the handling of a specialized cleaning problem such as this, best results can be expected when a competent cleaning specialist has a chance to look over the work in person. In making a recommendation on this type of problem, an Oakite service man must consider such factors as the following: The exact nature of the "dirt" to be removed; the volume of wiping rags and waste to be washed each day or each week; whether or not a steam line or any other heating method is readily available; whether the washing and rinsing must be done with extremely hard water; whether the addition of a small amount of soap to the Oakite solution would assist in "lifting" the dirt out of the fabrics; etc. Oakite service men, located in almost all of the important industrial centers in the United States, are fully competent to assist the readers of your magazine on their various industrial cleaning problems.

Quoting from the booklet: "Experience has proved that the dirtiest waste or cloths can be washed at a cost per pound averaging 1/16 of the cost of new waste or

Now you can
BLEACH
MAHOGANY AND WALNUT
IN ONE APPLICATION

**Gilco 2 in 1 Odorless**
**WOOD BLEACH**

. . . has won the approval of the wood finishing industry —if enthusiastic acceptance implies anything.

It has impressed furniture manufacturers with its superior bleaching results on Mahogany and Walnut and with the equally effective results obtained on Maple, Birch and Gum woods.

Write now for complete information and order a quart unit of the new bleach.

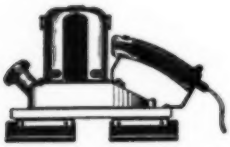
SPRUANCE QUALITY

Specialists in the manufacture of wood and metal Finishing Products, since 1907.

**The Gilbert Spruance Co.**
RICHMOND & TIOGA STS.
PHILADELPHIA, PA.

# Sure!

## You've been searching the hi-ways and bi-ways for this



## "Dual-Blok"

*Portable Electric*

**Sander-Rubber-Polisher**

An 8-lb. portable machine; plugs into any light socket; for sanding, rubbing and polishing, on production work or refinishing. Interchangeable reciprocating blocks; universal motor powered to withstand varied conditions. Works on flat, curved and irregular surfaces; operates in horizontal, vertical and angular positions.

Manufacturers of furniture, fixtures, automobiles; automobile refinishers and Simonizing shops, jobbers, dealers, etc.—write for circular and price.

FINISHING EQUIPMENT CO.
Indianapolis, Ind.


cloths. In other words a pound of new waste or cloths costs 16 times as much as a pound of the same material washed. It costs, on the average, ¾ of a cent per pound to wash waste and wiping cloths with Oakite. They can be recleaned 50 to 150 times . . . . Absorbency of waste or cloths is largely the measure of their usefulness. Waste or cloths washed . . . . are more absorbent than when new. They are softer. The men in the shop, when once they have tried it, like washed waste better than new, because it wipes more easily and there is no lint.

## Who Will Buy Enamel or Lacquer Residue?

We understand that there are certain concerns who buy up the lacquer and paint residue which is scraped from spray-booth walls, or which is recovered from the tanks of a water-wash type spray booth. We have been unable to find the name of any concern in this type of business and would very much appreciate it if you could tell us the names of any concerns who buy up reclaimed material.—S. E. MFG. CO.

We do not know of any firm or concern that buys up lacquer or paint scraped from spray booth walls. In fact, we cannot even suggest to whom you might write concerning this matter. — BINKS MFG. CO.

A number of paint concerns have considered purchasing reclaimed lacquer and paint residue from spray booths, but to my knowledge none has made any

definite commitments along this line. Most of the concerns who use large quantities of paint, in our hydro-filter booths, reclaim the residue and use it for various purposes.

Owing to the fact that the various colors are mixed in reclaiming the paint, it has to be used for undercoats. One automobile manufacturer, I understand, is using reclaimed paint for engine seal, frame painting, and undercoats on bodies. Other large concerns, where clear lacquer is sprayed, are reclaiming their own lacquer and using it.

If I hear from any paint company that is purchasing residue I will be glad to communicate the information to you.—R. C. MAHON, The R. C. Mahon Co.

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We do not know of any individual or organization who buys up lacquer and paint residue scraped from spray booth walls. It is probable that your correspondent has heard that lacquer and synthetic enamel are being reclaimed from water wash spray booths. This is a special reclaiming method which we believe is controlled by the Chrysler Corporation. If the amount of material to be reclaimed is of much volume, there may be advantages in this method.—THE DEVILBISS CO.

---

## To Clean Dipping Racks

In reorganizing our process for the lacquer dipping of wood and metal parts we are faced with a rather serious problem in the necessity for expeditious removal of deposits of the dipping material from the dip racks. We should very much like to know whether


Absolute LACQUER SAND SEALER

*Why not try . . .*
**5 Gallons**
*at drum price?*

ECONOMICALLY PRICED!

*IF—it doesn't*

—have excellent sealing properties
—have a good build
—dry quickly
—sand easily and smoothly and
—provide a better foundation for finish coats

*OR—IF*

you are not entirely satisfied return the can at our expense for full refund.

***Send your trial order for the 5 gal. can at drum price to either plant.***

**Woodfinishing Products Co.**

**34 Industrial St. Bronx, N. Y. City**
**Winston-Salem North Carolina**

**FLOCKS**

**Wool - Cotton - Rayon**

- In All Colors
- For All Equipment
- For Every Purpose

SUITABLE FOR:

Rubberized Fabrics—Flock Printing — Velour Paper — Moulded Plastics — Spray Gun Equipment (For Woods, Metals, Paper and Glass)

Let us help you develop or reproduce that special effect or color tone. Send us sample or description of what you need.

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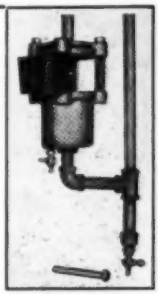
**Wool Stock Co., Inc.**
283-287 W. Broadway, New York
Pioneer Manufacturers Since 1875

**SPRING**
**RAINS**
**load your Air Lines with Moisture**



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**UNIVERSAL AIR FILTERS**

are guaranteed to eliminate this trouble and materially improve your Finishing.

Make Us Prove It

**UNIVERSAL FILTER SALES COMPANY**
4223 Forest Park Blvd., St. Louis, Mo.

any of your advertisers or subscribers can furnish us with equipment or materials equal to this task. Our present set-up will require semi-continuous cleaning operations to remove these deposits between the time the racks are unloaded and the time they are needed for a repetition of the dipping operation.

We would greatly appreciate your comments on this matter. Any suggestions you can make, both as to the operation itself and as to possible sources of equipment or material required, will be appreciated.—D. L. S. Co. (Hardware Specialties).

---

In referring to the necessity for removal of deposits from the dip racks, I wonder if D. L. S. Co. means the drain board or the equipment with which the objects to be dipped are handled? I believe the word "rack" is one of the most commonly used (and abused) words in the painters' vocabulary.

If it is the drain board, I can suggest several alternatives. To begin with, it is best to have the drain board made of one seamless strip of steel, to allow easier cleaning. Then a strip of clean paper is placed over the drain board. For this purpose ordinary brown kraft paper is suitable. The draining should not be allowed to run into the same tank in which the work is being dipped, a separate tank answering that purpose. Continuous dipping operations can then be maintained, and at various intervals the drain board can be squeegeed down to bring into the reservoir tank all wet lacquer or enamel, and at the end of the day the paper can be rolled up and thrown away. The

residual lacquer in the reservoir tank can then be reclaimed and strained for the next day's use.

If by the word "racks" the D. L. S. Co. refers to the equipment with which the work is handled, such an arrangement of prongs, hooks or clamps, which need to be kept continually clean, I can suggest several methods to strip these parts. Perhaps the best and cheapest method is immersion in a boiling caustic solution. The equipment may also be washed with a strong thinner. The following formula should prove satisfactory and economical:

| | |
|---|---|
| Acetone | 30% |
| Ethyl Acetate | 10% |
| Butyl Alcohol | 10% |
| Toluol | 50% |

This formula is a far more powerful blend than ordinary lacquer thinner. It is not suitable for spraying or dipping purposes, its use being restricted only to stripping. However, if you do not wish to carry these solvents on hand, approximately the same result can be secured by adding 10% or 15% acetone to a cheap lacquer thinner.—JAMES A. BEDE.

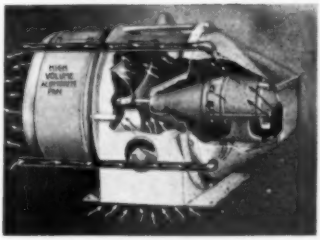
## That Matter of Furniture Finishes

**A reply to Geo. D. Watt by J. H. G., chemist for a Cleveland Lacquer Co.**

*In the March edition of Industrial Finishing, a very interesting article appeared under the title, "What's the Matter with Our Furniture Finishes?" by George D. Watt of this city.*

*Pages could be written in reply to his query, but not wishing to be presumptuous, I have limited*


# ELIMINATE FIRE HAZARDS!



**Protect Health with IMPROVED Paasche VENTILATORS**

For the greatest protection from health and fire hazards, your ventilating fan must operate to full capacity without interruption.

The Patented Fireproof Ventilating Unit with which all Paasche Booths are exclusively equipped, is direct driven from motor shaft and cannot fail or falter. No belts to slip, or break. Duct obstructions are eliminated. Motor fully enclosed in an all metal fireproof cabinet; sparkless aluminum fan removes all fumes at low power cost. Four mounting positions assure most direct exhaust.

*Write for bulletin 04-36*

Paasche Airbrush Co.

1917 Diversey Parkway Chicago, Illinois

It's Tops!

It's actually years ahead in performance and results! New "Uni-Flo" head gives finer atomization, greater speed. Spray width adjustment in combination with pressure control ON THE GUN! One piece Fluid Needle Valve assembly instantly removable. Rugged, yet simple in construction; light weight; accurately balanced to eliminate fatigue. Write today for full details.

CROWN SPRAY GUN MFG. COMPANY

Warehouses in Principal Cities

1218 VENICE BLVD., LOS ANGELES, CAL.

**McALEER'S**

**Polishing Compounds**

are made at

**'Buffing Headquarters'**

A PRODUCT FOR EVERY PROBLEM

Samples on Request

**McALEER MANUFACTURING CO.**

2431 Scotten Ave., Detroit, Mich.


*myself in this article, "That Matter of Industrial Finishes" . . . .*

*Incidentally, you may be interested to know that your publication is greatly appreciated at my company, and we always look forward to the simple, direct and instructive articles it contains.* — THE AUTHOR.

When you were a boy, it took a week to finish a cabinet that now takes a few hours or a day. It took three weeks to finish an automobile body that now takes a day.

A 20-year old piano at my mother's home is all checked and disfigured, and has been for 15 years. Remember the automobiles with their hood-checking difficulties. Compare these with today's finishes. I am endeavoring to create the atmosphere for you to understand the paintman's viewpoint. Compare the finishing schedule in the above type examples and the difference in time.

You ask, "Are our finishing materials as good as they were years ago?" What do you mean by "good"? I assume you mean serviceable, which after all is the only qualification for any finishing material. But here is the crux: How many finishers actually purchase their materials? Usually, this is done by a Purchasing Agent, who is interested primarily in price. He wants a finish to cost less per square foot of surface.

There is scarcely a reputable manufacturer of finishes that hasn't at least two or three superb finishes, far better than any of the old finishes, better in every respect; they dry faster and harder, will not check in temperatures down to freezing, will not print, and can be rubbed very easily. They have them; they offer them to you as a finisher, as a valuable

tool, but will your Purchasing Agent accept them? No. They cost too much. They still do not approach the price of varnish when you were a boy. But times have changed. When you were a boy, your father paid three times as much for a table as you do today. Your father didn't have as many tables in his home as you have today. Your mother wasn't as style conscious as women today.

My company manufactures industrial finishes, and we enjoy a reputation for integrity and reliability throughout the industry; yet I could count on the fingers of one hand the accounts that use our better finishes — those who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With modernized methods many industrial concerns have banished those tedious, costly hours formerly consumed in striping by hand. With Beugler special concave and convex wheels even wire products such as bird cages and many other items with fillets, beadings and routings can be easily striped.

Beugler stripers are expertly designed for Speed . . Accuracy . . Durability . . Simplicity . . Adaptability and Completeness.

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*Ten-Day Money-Back Guarantee*

**BEUGLER STRIPERS**

put quality and performance above price. Why? Because the ultimate consumer today buys price, not quality.

Therefore, let us not blame the finishes, the purchasing agents, or workmanship, but the demands of the purchaser. This is the age of "chiselers" (not in wood, not in marble, much less an artistic subject) in that still omnipotent factor, PRICE.

## Finishing Small Metal Parts

FOR FINISHING the metal parts of juvenile shovels, hoes and rakes, two methods are available—spraying and dipping. The right way to get the metal ready for finishing is to clean the oil or grease from the pieces to be coated. These articles can be rolled in sawdust to clean them, but to be sure of removing all of the oil or grease, I suggest using a degreasing machine—a vapor cleaning machine which will take off all grease or oil, no matter how nested together the parts are. These articles will be absolutely clean and dry when taken from this machine because the vapor chemicals are dissolved in hot water, which remains at a boiling point.

One way to preserve these metal parts against rust, if they are clear steel, is to either spray or dip them in a fast-drying synthetic varnish or a wash dip material. To spray finish them, lay them out on trays. They can be turned over quickly and will dry in one-half hour air-drying, or in 15 minutes in an oven at 200°F.

To finish them in color I suggest using an aniline material which can be reduced about 50 percent and still have a good coloring body left. If dipping is wanted, any dipping machine manufacturer can supply the type of machine needed.—HOWARD FORD.

**STICK SHELLAC**

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## Bakelite Corporation Adds G.W. Barlow to Sales Staff

Bakelite Corporation, New York, announces the appointment of G. W. Barlow to the sales staff, covering Bakelite resins for paints, varnishes and enamels. After spending several weeks in the Bakelite Research and Development laboratories at Bloomfield, N. J., Mr. Barlow will be located in the Cleveland office. For the last ten years he has been associated with the Marietta Paint and Color Co. as superintendent of varnish and lacquer production.

## Novelty Finishes Discussed

The wide variety of attractive "novelty" finishes now available to manufacturers was described and illustrated in a talk given before the January meeting of the Boston Branch of the American Electro-Platers Society, by Gustave Klinkenstein, Vice-President and General Manager of Maas & Waldstein Co., lacquer and enamels manufacturers, Newark, N. J.

Mr. Klinkenstein pointed out that the beautiful finishes invented by the ancient masters of lacquering, gilded and glazed china, cloisonne work, etc., can now be reproduced rapidly and economically with modern lacquer finishes, and that many radically new finishes are constantly being developed.

The checked surface of old wood or china can be imitated, Mr. Klinkenstein said, by spraying the product with a coat of colored lacquer enamel followed by a coat of Checklac, a lacquer that cracks open on drying. Another type of lacquer, known as Prismlac, becomes ornamented with crystals when drying, and these crystals grow larger and cover the entire surface. Very interesting finishes can be obtained with this lacquer, used either clear on polished metals or in combination with colors, bronze powders, etc.

The brilliant metal colors formed by the anodic and other chemical processes can now be readily reproduced with a semi-transparent lacquer called Platelustre. With this lacquer, all known chemical color effects can be reproduced and many new ones can be secured.

Very different is the "flock" finish, formed by spraying a special ground-coat, that remains sticky for 15 minutes, with finely divided cotton or rayon—using a special type of spray gun. The finish thus secured looks like and wears like suede leather.

Metalustre is a new type of lacquer which combines the brilliance of a metal background with color. It is used extensively in finishing low-priced novelties, as it gives an excellent coverage in a single, quick-drying coat.

Other finishes described by Mr. Klinkenstein included mottled pearl, stippie and float finishes, crackly finishes, and webbing lacquers which string out in fine threads when sprayed.

## Schneible Appoints New Representatives

The Claude B. Schneible Co., of Chicago, makers of multi-wash dust collectors and multi-louver dewatering tanks, recently announced the appointment of two new sales representatives in the Milwaukee and Eastern Pennsylvania territories.

Paul J. Cnare will handle sales in Wisconsin and Minnesota, from headquarters in Milwaukee. Mr. Cnare was formerly associated with General Motors Corporation in the Chevrolet Gear & Axle Division.

Charles C. Hermann, formerly of Deere & Co., Waterloo, Iowa, will be in charge of the Philadelphia office which covers Eastern Pennsylvania, Maryland, Delaware, and the lower New Jersey territory.

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625 W. Jackson Blvd., Chicago

# Industrial FINISHING

Distributed to Executives and Foremen Finishers in industrial plants where finishing coats are applied with finishing equipment

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# EDITORIAL

## Business Going Ahead

Almost every line of industrial activity has participated in the upward business trend, there being complaints only from those businesses which, because of their very nature, are on the decline—with new products and service rapidly taking their places.

It is becoming the rule rather than the exception that concerns have two or more established sources of supply, guarding against delivery delays due to strikes, shortages of material and other causes beyond control. This is as it should be, to keep up with the increased demands for goods.

We envision an even more popular demand for things that are new in design, striking in color, and suggestive of additional utility value. People just emerging from a drab and weary period of inertia will naturally grasp for the brighter and better things of life, just as a baby wiggles, coos and reaches for a bright red and blue rattle.

Product engineering and designing should continue at top speed during 1937 . . . . with product finishing a very important factor in practically every line of industrial production.

## What's Under the Finish

Have you ever looked across the top surfaces of finished tables and desks in a furniture store when the light was just right to show up the true flatness or absence of flatness in the finished tops? Sometimes you could count the joints in the corestock underneath the veneer. And similar sights can be seen occasionally on other flat veneered surfaces such as the headboards and footboards of beds, desk ends, fronts, etc. Nothing is wrong with the finish nor with the veneer and crossbanding—except possibly that the latter two items are too thin, but even if they were twice as thick, the cause and evidence of the real trouble would still be present.

Unbalanced core-stock construction—pieces of different woods and woods of different texture, grain and moisture content—resulted in variations in the shrinkage of adjoining pieces, and this

pulled the surface veneer sufficiently to cause slight depressions or ridges which are greatly magnified by a smooth lustrous finish. This is one cause. Another is the planing of the swelled glue joints before they have had time to shrink back to normal dryness and position, and when they do finally shrink (after finishing) they produce shallow valleys or depressions.

Skimping the workmanship under the finish will easily show up in one way or another, sooner or later — whether the surface finished is wood, metal or composition material. Under other sets of conditions, the finish may crack, peel, wrinkle, flake off, discolor or turn chalky.

Frequently the finishing material or the finisher is blamed for these things when the real cause of the trouble lies far beyond and underneath the finish. A thorough, intelligent and unbiased investigation all along the line of production and back to material storage will usually disclose the true facts and causes for any unsatisfactory results in the final appearance of an article.

## Saving Labor in All Finishing Operations

More and more companies are turning to the employment of various types of mechanical handling and conveying apparatus in modern finishing rooms — in metal cleaning operations, in spray and dip finishing and in bake finishing. One manufacturer of this apparatus has just sent us a book filled with pictures showing mechanical handling or conveying equipment in service in the finishing rooms of leading concerns in several different industries. In response to our request for some photographs showing men at work with this equipment the company said:

"The difficulty encountered (in getting pictures with men in them) is that our machinery is practically, if not entirely, automatic in its operation. The result is there are no crowds of workmen hanging around the job — seldom even a man or two. You will note the absence of men in these pictures, which we consider very much in favor of this type of equipment. If we can sell you on this idea, well and good."

We are sold on the idea and we believe more manufacturing concerns are going in for the use of this mechanical handling and conveying equipment. It not only saves labor, but in many installations it saves time and floor space. It also saves the type of manual handling that often damages work in process, causing rejects and

"do-overs." It sets a steady pace for operations and enables the few workmen who are engaged, to do their work with less effort and less worry. It makes production costs easier to figure. After all, it is the steady continuous movement of work-in-process that produces volume results economically.

## Pull Together! It's Profitable

What enables a manufacturing concern to grow successfully?

Here are a few suggestions that one concern makes, although the letter quoted was not written on this particular subject, nor for publication. However, we feel that what the writer says is too valuable to remain buried in our letter file, especially since so many firms and individuals need to be reminded of the lesson it contains. The firm, an eastern engineering corporation, recently moved into a new plant, and the advertising manager wrote us under date of March 1, part of his letter being as follows:

"We feel that it is due to the conscientious effort and wholehearted cooperation of everyone in the shop that we have so soon been able to build up a smooth running and efficient organization in our new plant.

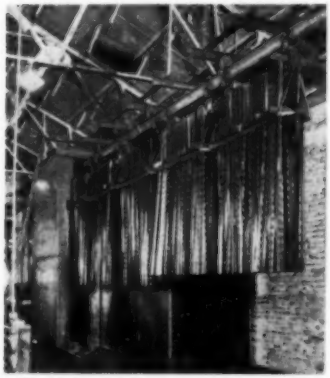
"If we continue to give our customers prompt shipments and service, and if each one of us makes it our personal obligation to see that every piece of equipment, small or large, is perfect before it leaves our hands, then the future of all of us will be assured by the goodwill, recommendations, and repeat business that will naturally follow.

"Satisfied, and therefore loyal, customers are the only real asset we have individually and collectively.

"Let us keep up the good work and pull together. It will be increasingly profitable to all of us."

It strikes us that the above paragraphs offer a guiding light to all individuals and firms in business today.

FINISHING STEEL FENCE POSTS



Here are steel fence posts leaving the spray booth and advancing over an inclined drain board. They are supported by special carriers which in turn are suspended by trolleys from an overhead steel I-beam. They are on the way to a baking oven. This photograph loaned by courtesy of The Louden Machinery Co.

## To Get Your Magazine Regularly

To be sure of getting your copy of INDUSTRIAL FINISHING regularly and promptly, please make sure that we have your correct name and address. If your address is changed, please notify us promptly, giving both your old and new

address. If possible, send us the envelope in which your last magazine came, as this envelope carries an identification key which helps us to quickly find your name on our lists.

If you fail to get your copy of the magazine any month, kindly advise us. We want you to get INDUSTRIAL FINISHING regularly and promptly every month, so long as you want it, and we ask your cooperation to make this possible.

## Letters from I. F. Readers

*(Continued from page 9)*

"Blanchit," suggesting that they forward to the M— Co. full information as to prices and process used with this material, i. e., any literature they have concerning this product?

We also would be interested in having information on their product from the manufacturers of "Blanchit," and feel that we can furnish them with names of other customers or prospects who might be in the market for their product and in this way promote the sale of their product as well as further our interests in the sale of the lacquer or varnish finishing coats.—J. Pt. & Varn Co.

"Blanchit" is a product of L. R. VanAllen & Co., 408 N. Wells St., Chicago, Ill.—Ed.

## Screen Stencil Plates Aluminum Die Castings

We would like to know more about the Photographic Silk Screen Stencil Plates mentioned in February issue of INDUSTRIAL FINISHING.

Can you tell us anything about preparing aluminum die castings for painting? We have just developed a new field glass and do not seem to find any way to get enamel or lacquer to stick. At least, we can scrape to the bare metal with a finger nail. We have tried cleaning with Oakite, acid and emery paper. The best results so far are with . . . Any suggestions you have to make will be greatly appreciated.—R. M.

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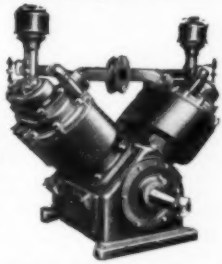

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- GLOBE Gold and Aluminum Paste is specially formulated for lacquer.
- *Color card, samples and prices sent on request.*

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330 N. Ashland Ave., Chicago, Ill.
*Pacific Coast Agents*
BRAUN CORPORATION, LTD.
Los Angeles, Calif.

## Paint Striper

In February issue there is an article on page 38, regarding a master paint striper. We ask you to kindly have the manufacturer of this striper send us literature concerning it, informing us at the same time whether a mixture of lacquer and bronze can be applied with this apparatus.—B. Q. Co. (Wall Coatings; Applied Art).

The tool is a product of Wendell Mfg. Co., Chicago, Ill.—Ed.

## Printing on Glass

Is there no other method that you know of for printing on glass besides silk screening? We understand that certain concerns are successfully printing directly on glass by using rubber plates of some type. If you happen to know anything along these lines, we would most certainly appreciate hearing from you.—B. L. F. Co. (Metal Photo-Frames, Mirrors).

## Learns Something New

In reading your publication INDUSTRIAL FINISHING for February, 1937, we note with interest the article which appears on page 77 captioned "An Old Head Learns Something New." We would like very much to use this article in a company publication, giving INDUSTRIAL FINISHING full credit, of course. If this is agreeable with you, will you kindly furnish us with your permission?—N. & E. Co. (Supervisor Merchandising Bureau).

Permission is granted.—Editor.

## Finish for Skis

On page 63 of the February issue of INDUSTRIAL FINISHING, there is a request from a concern in regard to finishes for skis. We would appreciate it very much if you will give us the name of this concern, as we have a line of materials which is being sold to other ski manufacturers, and these materials have proven very satisfactory.—Maas & Waldstein Co.

## Silk Screen Stencils

Will you please send us the names and addresses of firms that can supply silk screen stencils? If possible, we would like to have you write the people who supply these stencils, and ask them to get in touch with us.—E. C. Mfg. Co. (Springs and Spring Constructions).

## "Protectomask"

Please advise who are the manufacturers of the Protecto Mask illustrated on page 56 of INDUSTRIAL FINISHING, February issue. — E. N. Furn. Co.

This is a product of the Scoles Co., 6701 Prospect Ave., Kansas City, Mo.—Ed.

## Venetian Blinds

### Cedar Sealer

Would you be so kind as to add our name to your mailing list for distribution of your magazine on industrial finishing? We particularly would like a copy of the issue treating upon the Venetian blind article by Berkeley S. Vaughan, if available (Dec., 1936, pages 38-46).

Please forward our request for a cedar sealer to the Gilbert Spruance Co. mentioned on page 6 of INDUSTRIAL FINISHING of January 1937.—T. S. Co. (Finer Venetian Blinds).

## G. M. Spray Gun

In February issue of INDUSTRIAL FINISHING the "G. M. Spray Gun" is referred to on page 54. Will you kindly get in touch with the manufacturers of this spray gun and have them send us full information concerning it? Please have them send this information to the company to the attention of our paint foreman. —C. Steel Furn. Co.

This is a product of G. M. Mfg. Co., 216 N. Clinton St., Chicago, Ill. —Ed.

## White Crackle Lacquer

One of our customers, who manufactures a wooden novelty, wants to coat it with a white crackle lacquer. Please put us in touch with a manufacturer who makes this material at this time. — D. A. Co. (Spray Painting Engineers).

## Du-Bar Bleach Improved

V. J. Dolan & Co., Inc., 1830-32 N. Laramie Ave., Chicago, Ill., announce some marked improvements in their Du-Bar Bleach . . . . it may now be applied in a single operation; also it may be sprayed. An additional major improvement in Du-Bar is the fact that it is now made odorless, and that it neither leaves any sediment nor over-lap marks on surfaces.

## Rohleder Made Chief Chemist of Maas & Waldstein Co.

Charles F. Rohleder has been appointed Chief Chemist of Maas and Waldstein Co., makers of industrial finishes, Newark, N. J., according to an announcement issued by Gustave Klinkenstein, Vice-President and General Manager of that company.

Mr. Rohleder was graduated from Cooper Union, N. Y., in 1926, with the degree of B. S. in Chemistry, and has spent all of his professional life in the industrial finishing field. His experience includes research, production control, and supervision of production. He is a native of New York City and is living at present in Belleville, N. J.

## Heat-Resistant Aluminum Finish

The Hilo Varnish Corp., Brooklyn, N. Y., has just sent to this office a sample sheet of very thin steel coated on one side with "Hilume Extra," and a copy of the report by an electric company in Springfield, Mass., that made tests of the finish. According to the electric company's report:

"A strip of cold-rolled steel painted on one side with aluminum, using Hilume Extra as a binder, was received from the Hilo Varnish Corporation for test purposes.

"It was placed in the humidity box; after 98 days the painted surface was in perfect condition, having shown no tendency whatever of peeling or blistering.

"The piece was then held over a flame until it was red hot, and still had no effect on the aluminum finish. After this the strip was bent and twisted, and even over an extremely sharp bend the paint did not crack or show any sign of fracture or tendency to loosen from the metal. It was then submerged in high test gasoline for three hours and this had no effect on it. After all these tests it still maintained its original finish and luster, and could not be scraped off with the finger nail.

"It is believed that this material has all the qualifications claimed for it by the manufacturer . . . . "

## Flooring Finishes

The Maple Flooring Manufacturers Association has issued specifications on heavy-duty finishes for use on maple, beech and birch flooring. To receive the seal of approval of the MFMA, such products must first be submitted to Foster D. Snell, Inc., 305 Washington St., Brooklyn, N. Y., for laboratory examination, after which service tests may be required. An approved list of products is to be issued early in 1937.


# Classified Advertising

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